THE EFFECTS OF AFFECTIVE PROCESSING ON SECOND LANGUAGE
DEVELOPMENT

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Abstract

Among several cognitive processes and factors influencing processes in the field of instructed second language acquisition, the question of whether and how second language (L2) learners' affective states influence the first hurdle of L2 development, that is, input processing, has not yet been fully investigated. Based on a theoretical framework, Modular Online Growth and Use of Language (Sharwood Smith & Truscott, 2014a), the following hypothesis was formulated: Instruction that aims at enhancing L2 learners' positive affect regarding L2 input (i.e., affective input enhancement, or Affective IE) is effective in facilitating L2 development.

To test the hypothesis, the researcher conducted a quasi-experimental study to examine the effects of Affective IE on L2 learners' affective evaluation of the text topic, text comprehension, L2 vocabulary learning, and L2 grammar learning. Eighty-six Japanese university students were assigned to one of three groups: the Affective IE group ($n = 28$), in which the participants received instruction aimed at enhancing affective processing of an L2 text, the Perceptual IE group ($n = 29$), in which the participants received instruction designed to enhance perceptual processing of L2 linguistic items used in the L2 text; and the Conceptual IE group ($n = 29$), in which the participants received instruction intended to enhance conceptual processing of the L2 linguistic items used in the L2 text.

The results showed that Affective IE was more effective in facilitating the participants' positive evaluation of the text topic and deep understanding of the text than the other instructional treatments. The results also demonstrated that although larger effect sizes for the contrast groups were found in the semantic learning of L2 vocabulary, Affective IE was as effective as the other instructional treatments in facilitating the learning of the form of L2 vocabulary and the learning of L2 grammatical forms in the written mode. In terms of the development in the use of the two L2 grammatical forms in the oral mode, there were no significant differences among the three groups. From these findings, although there are several limitations, the researcher argues that Affective IE is effective in facilitating L2 input processing and development.

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Chapter 1: Introduction

Background of the Study

The present study is located in the field of instructed second language acquisition (SLA). Researchers in this field have investigated optimal environments and instruction for facilitating learners' acquisition of the target language while focusing on their cognitive processes and the internal or external factors influencing those processes. The cognitive processes include, for example, input, input processing, intake, developing system, and output (VanPatten, 1996, 2004). Another example is the integrated model of SLA by Gass (2013) in which several processes, such as apperceived input, comprehended input, intake, integration, and output are included. According to these models, the first hurdle of SLA is input processing or form-meaning mapping. Input processing is essential for SLA because it is responsible for creating the data necessary for constructing a mental representation of L2 grammar (VanPatten, 1996). Not all inputs to which L2 learners are exposed are used to create the L2 grammatical system. L2 learners filter input, so only some of the inputs, or part of the processed input (i.e., intake), go into their developing system.

Instructed SLA researchers have explored how to promote effective input processing by instruction. One of the most studied instructional methods is processing instruction (PI) (VanPatten, 1996; VanPatten & Cadierno, 1993). PI is an input-based approach to L2 grammar instruction to help L2 learners to abandon the misleading processing strategies of their L1 and to help them to construct the appropriate intake necessary for acquiring the target language. In PI, learners are required to process the target linguistic features in the input, but they are never required to produce L2 output. A number of empirical studies have demonstrated its overall effectiveness in developing learners' abilities to use the target grammatical forms in

comprehension and production (e.g., Shintani, 2015; VanPatten, 2004). However, it is possible that PI cannot be used directly in classrooms because it can only be applied to a limited variety of grammatical forms, and it lacks an ecological or sociocultural perspective. Moreover, PI only succeeds in targeting a limited number of processing strategies and grammatical forms, which also lowers its feasibility for classroom use (See the "The Limitations of Processing Instruction" section in Chapter 3 for a more detailed discussion).

In order to facilitate L2 learners' input processing in classrooms in a more feasible way, a more flexible and comprehensive explanatory framework for instructed SLA is necessary. The present study used *Modular On-line Growth and Use of Language (MOGUL)* (Sharwood Smith & Truscott, 2014a; Sharwood Smith & Truscott, 2014b; Truscott, 2015; Truscott & Sharwood Smith, 2011) as an alternative framework to PI. MOGUL is a theoretical attempt to explain L2 processing and development within a single framework. MOGUL assumes that the cognition of human beings consists of different systems (e.g., perceptual, conceptual, linguistic, motor, and affective), and each of them work together to process the information they receive.

Furthermore, the present study explores how to enhance the facilitative effects of affect (i.e., the value-assigning mechanism that leads to the generation of emotions), which MOGUL considers to be an important construct. Not only in SLA research (e.g., Dewaele & Pavlenko, 2002; Krashen, 1981, 1985, Schumann, 1997) but also in different research fields (e.g., Ellis & Moore, 1999; Immordino-Yang, 2016; McGaugh, 2004; Phelps, 2006), has it been claimed that affect plays a pivotal role in learning. To the best of my knowledge, however, the question of whether positive affect has a positive impact on L2 processing and learning has yet to be carefully investigated in the context of instructed SLA research in classroom settings. Therefore, the purpose of the present study is to explore the effect of instruction aimed at enhancing learners' positive affect regarding L2 input on L2 development in the classroom; the study is firmly based on the MOGUL framework.

Focus of the Study

The present study examines the effects of instruction that enhance positive affect regarding L2 input on L2 development in the classroom. The term "L2 development" in this study refers to a higher degree of text comprehension and the learning of vocabulary words and grammatical forms. The target features of English vocabulary words constitute two aspects of vocabulary knowledge, that is, form and meaning. The target grammatical forms include the-object-of-a-preposition-type relative clause and the present hypothetical conditional. The effectiveness of the target instruction is measured by two types of text comprehension tests, written vocabulary tests, written grammar tests, and an oral grammar test. The present study employs a pretest/post-test design.

Outline of the Dissertation

This dissertation is organized as follows. Chapter 2 reviews the basic processes of SLA and how researchers have attempted to facilitate them by instruction. Chapter 3 describes the role of instruction in SLA, previous findings of PI studies, and ecological and sociocultural views aimed at overcoming the limitations of the PI model. Chapter 4 presents the basic architecture of MOGUL as the theoretical rationale for input enhancement and the mechanisms of three types of input enhancement. This chapter also defines affective input enhancement as the target of the study and explains how affective input enhancement influences L2 processing and development. Chapter 5 discusses three possible effects of affect on learning based on interdisciplinary research findings and re-interprets them in terms of the MOGUL framework. Chapter 6 reviews related studies on the acquisition of the target linguistic features (i.e., multiple dimensions of vocabulary knowledge, the-object-of-a-preposition-type relative clause, and the present hypothetical conditional). Chapter 7 reports the pilot study and details the present study,

including the research questions and hypotheses. Chapter 8 displays the results of the present study. Chapter 9 discusses the results of the testing of the research hypotheses to explore the effects of instruction; and it outlines the limitations of the study. Chapter 9 concludes the dissertation with some theoretical and pedagogical implications.

Chapter 2: Cognitive Processes of Second Language Acquisition

Introduction

L2 acquisition is assumed to involve multiple and complex processes (e.g., Gass, 2013; VanPatten, 1996, 2004). VanPatten's (1996) model of SLA, displayed in Figure 1, includes four products: input, intake, developing system, and output, and three processes: (1) input processing, (2) accommodation and restructuring, and (3) access and production procedures.
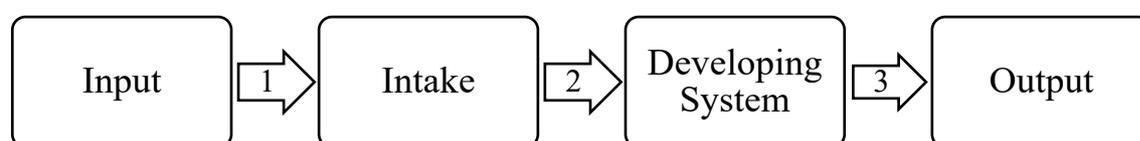
Figure 1. Basic SLA processes (based on VanPatten, 1996)

The researcher will review each of the products and processes of SLA and how researchers have attempted to facilitate those cognitive processes involved in SLA. Then the researcher will state the target cognitive processes of the study.

Input

There is a consensus in SLA research that input is necessary for learners to acquire the target language. Input, broadly speaking, is the target language to which the learner is exposed. One of the most influential and traditional arguments about the role of input in SLA is *the monitor model* (Krashen, 1981). In this model, Krashen (1981) argues that SLA occurs through comprehending the input or understanding the message of the input. Input that contains structures slightly ahead of the learner's current level of L2 knowledge is necessary for SLA to

happen. Conversely, input that a learner cannot understand at all or input that a learner already processes successfully does not serve as a useful input for triggering the SLA processes.

Similarly, Carroll (1999, 2001, 2002) distinguished *the input to processing* and *the input to learning mechanisms*. Carroll (2001) hypothesized that language acquisition takes place "when speech detection, word recognition, or sentence parsing fails (p. 12)." Learners do not need to attend to linguistic forms and make changes to their linguistic knowledge when they can process everything in the input. However, when they cannot analyze the input or understand it by using their existing knowledge or parsing procedures, the knowledge or procedures should be revised because something is wrong or missing. Based on this assumption, Carroll (1999, 2001, 2002) defined the input to processing as input that a learner can already process successfully with the existing knowledge or parsing procedures. This type of input will not result in learning. On the other hand, input that contains structures or linguistic features a learner cannot process with the current knowledge or parsing procedures will trigger learning, thereby revising the current knowledge or parsing procedures. This type of input works as an input to learning mechanisms.

In summary, input is not always used for acquisition. In order to trigger language learning mechanisms, input should include linguistic features slightly ahead of the learner's current level of L2 knowledge or linguistic features that the learner cannot process with the current knowledge or parsing procedures.

Intake

What L2 learners hear or see in input may not be what enters their brain. It is clear that they filter input, so only part of input is used for L2 acquisition. Corder (1967, 1981) first distinguished input and intake. While input refers to what goes in a learner's ears or eyes, intake refers to the internalized data of the target language. On the other hand, VanPatten (2004) defined intake as the "subset of input that has been processed in working memory and made

available for further processing" (p. 7). In this definition, intake is not yet internalized in a learner's grammatical system, unlike Corder's (1967, 1981) definition, and it is indispensable for the further processes of SLA. In order to transform input into intake, a learner has to process the input. The researcher has employed VanPatten's (2004) definition in the present study. The next subsection deals with the processing issue.

Input Processing

The first hurdle of SLA is input processing, which bridges the gap between input and intake. According to VanPatten (1996, 2004), when an L2 learner receives a linguistic input, the learner's internal processor maps the meaning onto the form of the input and parses the sentence in terms of who did what to whom. These processes are collectively termed *input processing*. Input processing is important for SLA primarily because processed or comprehended L2 input alone comprises the data necessary for constructing a mental representation of L2 grammar (VanPatten, 1996). Input processing is assumed to be influenced by multiple factors, such as first language (VanPatten, 1996, 2004), typographical saliency (Sharwood Smith, 1991, 1993), and affect (Gass, 2013; Krashen, 1981; Schumann, 1986). In the following, the researcher will review the influences of first language and typographical saliency, which have generated a number of empirical studies, and affect, which is the focus of the present study.

VanPatten (1996, 2004) pointed out that L2 input processing is influenced by learners' L1 processing procedures. For example, English-speaking learners tend to process the first noun of an object-verb-subject sentence in Spanish as the subject/agent of the sentence, which creates incorrect intake and causes misinterpretation of the interlocutor's intended message. As a result, it delays the acquisition of Spanish. To help learners abandon this problematic processing strategy, and acquire a more appropriate one, VanPatten and Cadierno (1993) developed PI, an

input-based approach to grammar instruction. PI was designed to lead learners to make correct form-meaning associations (i.e., intake) and subsequently to facilitate SLA.

Sharwood Smith (1991, 1993) proposed input enhancement (formerly, conscious-raising by Sharwood Smith, 1981) as an instructional technique that manipulates input to make the target input features more salient for increasing the likelihood of the features to be noticed and processed by a learner. This is based on the hypothesis that noticing a novel form in the input is necessary to understand it, and subsequently to acquire it (Schmidt, 1990, 1995, 2001). Input enhancement can be achieved in various ways, including typographical manipulation of the input (e.g., boldfacing, highlighting, and underlining), input flooding, and explicit instruction.

Krashen (1981, 1985), in his series of hypotheses, claimed that comprehensible input is necessary, but it is not sufficient. If a learner has a high affective filter caused by low motivation, high anxiety, and low self-esteem, the filter works as a barrier that can inhibit input processing. Based on the affective filter hypothesis, it is suggested that one of the teacher's jobs is to lower the filter and facilitate effective input processing. In this sense, for SLA to happen, input given to learners should be interesting, meaningful, and motivating.

In the integrated model of SLA, Gass (2013) also considered affect (e.g., social distance, status, motivation, and attitude) along with frequency, prior knowledge, and attention as a factor influencing the process called *apperceived input*, in which a learner determines if an incoming linguistic form is related to his/her prior knowledge or past experiences. The apperceived, or noticed, form alone will be available for further parsing mechanisms in the Gass (2013) model.

From the perspective of instructed SLA, VanPatten and Cadierno's (1993) PI and Sharwood Smith's (1991, 1993) input enhancement have stimulated researchers' interest and have generated a number of empirical studies to test the hypotheses. When it comes to affective factors, however, it remains unclear how they influence input processing in Krashen's (1981, 1985) hypothesis as well as in Gass's (2013) model. Moreover, instruction that utilizes the

affective aspect of SLA to promote input processing has yet to be investigated. Facilitating input processing by instruction is the focus of the present study.

Developing System

In SLA research, it is assumed that L2 learners create their own dynamic system, which underlies their utterances of the target language. Selinker (1972) first named the learner system *interlanguage*. Selinker (1972) described it as the learner's system with rules and regular patterns. Some of the rules and patterns originate in their L1 and L2. The others do not have their origin in either their L1 or L2. It should be noted that there is a certain amount of variability among individual learners while there is consistency or a trend in the pattern of their interlanguage among groups of learners (e.g., Tarone, 1983).

VanPatten (1996) used the term *developing system*, which is defined as "a mental representation of the grammar that must eventually underlie their use of language" (p. 5) and "the mental representation of the second language the learner is constructing over time" (p. 5). As a result of input processing, part of input becomes available to the developing system. In other words, processed input alone can be incorporated into the developing system. The processes involved in the incorporation of intake into the developing system are called *accommodation* and *restructuring*. The next subsection briefly reviews the processes.

Accommodation and Restructuring

When learners process a linguistic form that is not yet part of their developing systems, the representations of the new linguistic form are available for further processing, that is, accommodation, which leads to restructuring (VanPatten, 1996, 2004). McLaughlin (1990) explained that restructuring is a discontinuous or qualitative change in the developing system as learners move from stage to stage (McLaughlin, 1990). According to McLaughlin (1990),

restructuring comprises two stages. In the first stage, new linguistic forms are integrated into the developing system, and learners formulate hypotheses about how the target language works. In the second stage, they create a system to use the forms for conveying their own meanings. This restructuring is a process that is responsible for reorganizing their representations of the target language system qualitatively.

Output

Swain (1985, 1995, 1998, 2000) hypothesized that producing L2 output requires processing that may not be necessary for comprehension, which contributes to SLA mainly by promoting *noticing*, *hypothesis testing*, and *conscious reflection*. The first function of L2 output is to promote noticing. Swain (1995, 1998) hypothesized that a linguistic problem which learners may confront while producing L2 will lead them to notice a gap between the forms of their interlanguage and the target language (i.e., noticing the gap) and to notice a hole between what they want to say and what they are able to say (i.e., noticing the hole). These types of noticing will direct their selective attention to what they need to know for future relevant input.

The second function is hypothesis testing. When learners try to produce output, they do it based on their hypotheses about how the target language works (Swain, 1995, 1998). Producing L2 output is one way of formulating and testing their hypotheses. If external feedback is not available, learners will test their hypotheses against their own internal knowledge. If external feedback from their interlocutors is available, they can judge the comprehensibility and well-formedness of their output.

The third function is conscious reflection. Swain (1995) claimed that learners can reflect upon their use of L2 knowledge metalinguistically while producing output, leading them to control and internalize the knowledge. This function is also called *metatalk* (Swain, 1998) and *collaborative dialogue* (Swain, 2000). Metatalk is language that learners use to reflect on their

language use. Metatalk will deepen learners' awareness of the relationship between the form and meaning of the target language. This is why producing L2 output can lead learners not only to test their hypotheses but also to internalize linguistic knowledge and raise awareness of the relationship between meaning, form, and function (Izumi, 2003; Swain, 1995). Swain, Kinnear, and Steinman (2011) subsequently referred to this function as *languaging* from the Vygotskian, or sociocultural perspective.

There is another function: *automaticity*. Learners need to practice producing output using their L2 knowledge in communicative contexts in order to be able to use the knowledge fluently and access the knowledge efficiently. Producing L2 output has a role in developing automatization in L2 use (see de Bot, 1992, 1996; Johnson, 1996).

Swain (1985, 1995, 1998, 2000) suggested that producing L2 output promotes different cognitive processes conducive to SLA, such as noticing the gap/hole, hypothesis testing, and conscious reflection. VanPatten (2004) views the role of output in different ways, focusing on its role in input processing. First, VanPatten (2004) suggested that negotiation of meaning in interaction can make input more comprehensible and more noticeable, which is beneficial for SLA. Second, VanPatten (2004) claimed that, although L2 output is necessary for developing accuracy and fluency in production, producing output does not result in the creation of an L2 implicit system. Learners create linguistic systems through input processing, accommodation, and restructuring. In these terms, output is the result of the development of production procedures (e.g., Pienemann, 1998, 2005).

Other Cognitive Mechanisms Involved in SLA

There are other cognitive mechanisms that are assumed to influence SLA processes. The researcher will briefly review two of them: *noticing* and *cognitive comparison*.

Noticing. Noticing is an important cognitive mechanism in SLA (e.g., Robinson, 1995; Schmidt, 1990; Tomlin & Villa, 1994). Schmidt (1990) identified three levels of consciousness or awareness (i.e., perception, noticing, and understanding) and claimed that noticing L2 input features is a prerequisite for acquiring the language fully.

Attention and memory are cognitive mechanisms underlying noticing. Tomlin and Villa (1994) proposed that attention has three levels: *alertness*, *orientation*, and *detection*. Alertness increases the readiness for receiving input. Orientation assigns an appropriate amount of cognitive resources to the form-meaning connection of the input. Detection is responsible for recognizing the input features consciously. Detected information can only be used for further processing, such as learning and storage in short-term memory. Tomlin and Villa (1994) suggested that detection is necessary for language learning, and alertness and orientation can raise the likelihood of the detection of L2 input features.

Based on this framework of attention, Robinson (1995) redefined noticing as "detection plus rehearsal in short-term memory" (p. 296). In other words, noticing is a cognitive state in which learners hold the detected linguistic data in short-term memory, and they can consciously manipulate the information. Researchers in instructed SLA have attempted to promote noticing through various instructional techniques in classrooms and investigated their effects on SLA. Among others, these techniques include input enhancement (e.g., Sharwood Smith, 1993), output practice (e.g., DeKeyser, 2007), corrective feedback (e.g., Lyster & Ranta, 1997), written modeling (e.g., Hanaoka, 2007; Martínez & Roca de Larios, 2010; Oyama, 2017a).

Cognitive comparison. Another important cognitive mechanism is *cognitive comparison* (Nelson, 1987). This is a cognitive process in which children compare their (possibly erroneous) linguistic forms with the target forms provided by their parents and subsequently create new and more sophisticated linguistic forms. In instructed SLA research, cognitive comparison is regarded as an important mechanism in interlanguage development (Doughty, 2001; Doughty &

Williams, 1998; Ellis, 1997, 2016; Muranoi,1996, 2007; Oyama, 2017a; Tomasello & Herron, 1988). This mechanism comprises six different stages: tentatively abstracting foci, selective attention, selective storage, selective retrieval, selective analysis, and selective monitoring (Nelson, 1987).

According to Nelson (1987), cognitive comparison is carried out very selectively due to limitations of memory, attention, and motivation. In instructed SLA, Doughty (2001) stated that L2 learners have "a tight window of opportunity for making a cognitive comparison" (p. 254) because the capacity of working memory is limited. Working memory is where cognitive comparison occurs. A basic characteristic of working memory is that "the focus of attention is limited by its capacity" (Cowan, 1999, p. 68). In order to promote learners' cognitive comparison in the classroom by instruction, teachers' instruction needs to mitigate the cognitive load on working memory during the lower-level processes, such as selective attention, selective storage, and selective retrieval, allowing learners to allocate sufficient cognitive resources for selective analysis, which is the central stage of the mechanism.

Oyama (2017a) attempted to trigger cognitive comparison by instruction and examined its effectiveness on the acquisition of the past counterfactual conditional among Japanese EFL learners. Oyama (2017a) used written modeling as a method to induce cognitive comparison. In the instructional method, learners received model sentences, including the target form, immediately after writing opinion sentences with the target form. They then compared the two forms and recognized the differences between them. The results showed that participants who received a model text outperformed those who did not in terms of their knowledge of the target form. Oyama (2017a) concluded that cognitive comparison plays an important role in L2 grammar acquisition and that teachers can promote the cognitive mechanism by instruction in the classroom.

Cognitive comparison is assumed to play a role in *self-repair* (Oyama, 2017b). Self-repair is a communicative act in which a speaker notices and corrects erroneous forms in his/her own utterances in terms of syntactic, phonological, semantic, pragmatic aspects (Kormos, 1999; Levelt, 1989). Carrying out a successful self-repair can increase the listener's comprehension of the speaker's utterances and thus facilitate their effective communication. Moreover, Oyama (2017b) analyzed the process of self-repair into two sub-processes (i.e., noticing and correction), and argued that those self-repair processes are paralleled with the processes of cognitive comparison, suggesting that self-repair is conducive not only to effective communication but also to L2 learning.

Summary of this Chapter

SLA is a complex process, which comprises several different cognitive processes. Researchers in instructed SLA have attempted to stimulate those processes by instruction to foster SLA. Among these cognitive processes, the present study focuses on input processing, which is responsible for creating data necessary for accommodation and restructuring. There are some factors that are assumed to influence the outcome of input processing, such as L1 processing procedures, saliency, and affect. There are a number of empirical studies on the influences of L1 processing procedures (e.g., VanPatten, 2004) and saliency (e.g., Sharwood Smith, 1991, 1993) on L2 learning. To the best of my knowledge, the role of affect in input processing has yet to be investigated thoroughly, and the mechanisms of how affect influences L2 learning processes remain unclear in the field of instructed SLA. Although Krashen (1981, 1985) pointed out that learners' negative affect inhibits input processing, the facilitative effect of positive affect on input processing and L2 learning has not been a focus of research. The present study elucidates a positive role of affect in facilitating L2 input processing.

Chapter 3: Effect-of-Instruction Studies

Introduction

This chapter reviews three positions on the roles of instruction in SLA, different

instructional approaches, and empirical studies on the effects of instruction. Then, the researcher

reviews studies of PI, which is an instructional method targeting input processing, and its

limitations. Finally, the researcher applies ecological and sociocultural views to overcome the

limitations of previous PI studies and specify the connection between the alternative view and

the focus of the present study.

The Roles of Instruction in SLA

There are two basic positions to account for the roles of instruction in SLA: the non-

interface position and the interface position. The interface position comprises the weak and

strong versions; thus, here, the researchers reviews the three positions on the roles of instruction

in SLA. The term *interface* represents the transition of explicit or declarative knowledge into

implicit or procedural knowledge and vice versa. According to Ellis and Shintani (2014), for

example, while explicit L2 knowledge consists of knowledge that is conscious, declarative,

inconsistent, available for controlled processing, and can be reported verbally, implicit L2

knowledge comprises knowledge that is unconscious, procedural, systematic, available for

automatic processing, and cannot be reported verbally.

The fundamental claim of the non-interface position is that explicit or declarative

knowledge gained through instruction cannot transform directly into implicit or procedural

knowledge. Krashen (1981) distinguished *acquired knowledge*, which consists of subconscious

L2 rules used in spontaneous, communicative use, and *learnt knowledge*, which consists of

metalinguistic knowledge which can only be used for monitoring output produced by the

acquired knowledge. Krashen also claimed that instruction is beneficial only for the development of learnt knowledge and emphasized the limitation of instruction on SLA. From the perspective of neurolinguistics, Paradis (1994) suggested that implicit and explicit knowledge are stored separately in the brain. Paradis based his findings on clinical evidence from patients of Alzheimer's Disease, alcoholic Korsakoff's syndrome, anterograde amnesia, and Parkinson's Disease. Patients with these diseases demonstrated an impairment of explicit memory, but they showed intact implicit memory. This is why Paradis (1994) claimed that the two types of knowledge were incompatible with each other.

The strong interface position, on the other hand, posits that explicit knowledge can be converted into implicit knowledge through practice. This was first claimed by Sharwood Smith (1981), and DeKeyser (1998) subsequently supported the position by suggesting that learners first learn a rule of L2 grammar as declarative knowledge and they then practice using the rule in controlled communicative contexts, leading them to create procedural knowledge of L2 grammatical rules.

The weak interface position maintains that explicit knowledge can assist the development of implicit knowledge by promoting noticing the gap (e.g., Ellis, 1994), if learners are developmentally ready to acquire the linguistic form (e.g., Pienemann, 1998).

Researchers in instructed SLA take either the strong or the weak interface positions and explore the optimal environments and effective instruction for facilitating SLA.

Focus on Form

In order for L2 learners to acquire the target language fully, they need to make appropriate form-meaning-use connections through their learning process (Larsen-Freeman, 2003). *Form* represents how the target language is formed in terms of phonology and morpho-syntax. *Meaning* stands for what meaning a specific form conveys. *Use* refers to how and when the form is used in terms of pragmatics. The three aspects cannot be separated in language use, learning, and teaching.

In the history of L2 instruction, however, each component of the connections has been taught in isolation. For example, there are two instructional approaches: *focus on forms* and *focus on meaning*. Focus on forms refers to a traditional form of language teaching in which language forms are exclusively targeted, and they are separated from communicative contexts; thus, learners cannot create appropriate form-meaning-use connections through this instruction. Focus on meaning, on the other hand, is a form of language teaching in which the primary focus of learners is on communication through the target language, and any instruction to direct learners' attention to linguistic forms is not included. These two approaches have been recognized as insufficient for successful SLA.

Focus on form, in turn, incorporates form-focused instruction into meaning-focused activities and maximizes the merits of both approaches. Since the early 1990s, focus on form has attracted the attention of researchers. Long (1991) originally proposed that focus on form is a language learning/teaching principle that "overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication" (pp. 45–46). Long and Robinson (1998) defined it as follows: "focus on form often consists of an occasional shift of attention to linguistic code features – by the teacher and/or one or more students – triggered by perceived problems with comprehension or production" (p. 23). These definitions characterize focus on form as an incidental or reactive approach. In contrast, some

researchers (e.g., Doughty & Williams, 1998; Williams, 2005) proposed planned or targeted

focus on form, in which a problematic linguistic form is predicted in advance of the lesson, and

teachers provide learners with opportunities to use the form in a communicative context (e.g.,

Loschky & Bley-Vroman, 1993). According to Doughty and Williams (1998), focus on form can

be implemented by various methods or techniques, such as task-essential language (Loschky &

Bley-Vroman, 1993), input enhancement (e.g., Izumi, 2002; Jourdenais, Ota, Stauffer, Boyson,

& Doughty, 1995), recast (e.g., Lyster & Ranta, 1997; Philip, 2003), interaction enhancement

(Muranoi, 1996, 2000), dictogloss (e.g., Swain, 1998; Swain & Lapkin, 2001), garden path

(Tomasello & Herron, 1988, 1989), and PI (VanPatten, 1996, 2004). In addition, oral or written

corrective feedback can also be included as a focus on form technique insofar as the feedback is

given to learners when they have made errors in speaking or writing in communicative contexts.

Focus on form is effective for promoting SLA because it is assumed to facilitate

cognitive processes correlating with the process of SLA (Doughty, 2001; Doughty & Williams,

1998; Muranoi, 2007). As Doughty (2001) put it, "focus on form involves learners' briefly and

perhaps simultaneously attending to form, meaning, and use during one cognitive event. This

kind of joint processing is claimed to facilitate the cognitive mapping among forms, meaning,

and use that is fundamental to language learning" (p. 211). As discussed earlier, this form-

meaning-use mapping is crucial for successful SLA (Larsen-Freeman, 2003).

The focus on form approach informs us that form, meaning, and use cannot be separated

from each other in L2 instruction, because it is necessary to integrate form-focused instruction

into meaning-focused instruction in order to enable learners to construct appropriate form-

meaning-use connections of the target linguistic item.

The Relative Effectiveness of Different Types of L2 Instruction

Meta-analysis studies by Norris and Ortega (2000) and Spada and Tomita (2010) investigated the overall effectiveness of different types of form-focused L2 instruction (i.e., focus on form and focus on forms) with different degrees of explicitness (i.e., explicit and implicit). According to the studies, explicit instruction includes rule explanation or instruction to direct learners' attention to a particular form. In contrast, implicit instruction does not employ these interventions. Norris and Ortega (2000) analyzed 49 studies and generated the following ranking of the relative effectiveness of L2 instruction: explicit focus on form > explicit focus on forms > implicit focus on form > implicit focus on forms (A > B indicates that A is more effective than B). This result indicates that explicit instruction had larger effect sizes than implicit instruction, and focus on form had larger effect sizes than focus on forms, suggesting that explicit focus on form is better than the other types of instruction.

Spada and Tomita (2010) extended Norris and Ortega's (2000) study and examined the relative effects of form-focused instruction with different degrees of explicitness (i.e., explicit or implicit) on the acquisition of different types of linguistic features (i.e., simple or complex). Their results demonstrated that effect sizes for explicit instruction were larger than those for implicit instruction on both simple and complex features. This result is consistent with Norris and Ortega's (2000) results, which shed new light on the effect of instruction on the different degrees of grammatical difficulty.

Processing Instruction

In the basic SLA process by VanPatten (1996, 2004), input processing is the first hurdle for SLA. It is a process in which learners map meaning onto the form of an L2 input, or comprehend the meaning of the input. VanPatten (1996, 2004) argued that L2 input processing is influenced by L1 processing procedures, such as the Primacy of Meaning Principle and the First Noun Principle. The Primacy of Meaning Principle is a processing strategy, in which "learners process input for meaning before they process it for form" (VanPatten, 2004, p. 14). The First Noun Principle is a processing strategy, in which "learners tend to process the first noun or pronoun they encounter in a sentence as the subject/agent" (VanPatten, 2004, p. 18). Due to these processing strategies, learners often fail to create correct intake in several languages (e.g., English, German, Italian, Japanese, and Spanish). For example, when English learners of Spanish encounter an object-verb-subject (OVS) sentence in Spanish, they tend to process the first noun as the subject of the sentence, because of the First Noun Principle, which prevents them from making a correct form-meaning connection regarding the OVS sentence in Spanish and consequently their development is delayed. Table 1 indicates derivative principles from the Primacy of Meaning Principle and the First Noun Principle.

Table 1

Principles in VanPatten's Input Processing Model

Principle 1. The Primacy of Meaning Principle.
"Learners process input for meaning before they process it for form."
(VanPatten, 2004, p. 14)
Principle 1a. The Primacy of Content Words Principle.

"Learners process content words in the input before anything else." (VanPatten, 2004, p.14)

Principle 1b. The Lexical Preference Principle.

"If grammatical forms express a meaning that can also be encoded lexically (i.e., that grammatical marker is redundant), then learners will not initially process those grammatical forms until they have lexical forms to which they can match them." (VanPatten, 2007, p. 116)

Principle 1c. The Preference for Nonredundancy Principle.

"Learners are more likely to process nonredundant meaningful grammatical form before they process redundant meaningful forms." (VanPatten, 2004, p. 14)

Principle 1d. The Meaning-Before-Nonmeaning Principle.

"Learners are more likely to process meaningful grammatical forms before nonmeaningful forms irrespective of redundancy." (VanPatten, 2004, p. 14)

Principle 1e. The Availability of Resources Principle.

"For learners to process either redundant meaningful grammatical forms or nonmeaningful forms, the processing of overall sentential meaning must not drain available processing resources." (VanPatten, 2004, p. 14)

Principle 1f. The Sentence Location Principle.

"Learners tend to process items in sentence initial position before those in final position and those in medial position." (VanPatten, 2004, p. 14)

Principle 2. The First Noun Principle.

"Learners tend to process the first noun or pronoun they encounter in a sentence as the subject/agent" (VanPatten, 2004, p. 18)

Principle 2a. The Lexical Semantics Principle.

"Learners may rely on lexical semantics, where possible, instead of the First-

Noun Principle (or an L1 parsing procedure) to interpret sentences." (VanPatten,

2007, p. 121)

Principle 2b. The Event Probabilities Principle.

"Learners may rely on event probabilities, where possible, instead of the First-

Noun Principle (or an L1 parsing procedure) to interpret sentences." (VanPatten,

2007, p. 121)

Principle 2c. The Contextual Constraint Principle.

"Learners may rely less on the First Noun Principle (or L1 transfer) if preceding

context constrains the possible interpretation of a clause or sentence."

(VanPatten, 2007, p. 121)

These processing strategies in Table 1 emphasize that learners process input for meaning, with whatever resources or cues they have, such as lexical semantics, event probabilities, and contextual cues, within the limitation of the memory capacity. From the perspective of instructed SLA, in order to guide learners not to rely on those lexical or contextual cues but to use grammatical cues, teachers need to manipulate input in a way that forces learners to process the grammatical cues.

VanPatten and Cadierno (1993) proposed PI in order to help L2 learners to abandon such misleading processing strategies and to construct the appropriate intake necessary for acquiring the target language. PI is an input-based approach to L2 grammar instruction, in which learners are required to process the target linguistic features in the input. PI never pushes learners to produce any outputs, because producing L2 output does not directly create new mental representations of L2 grammar or trigger further processes, such as accommodation and restructuring, as reviewed in Chapter 2.

The basic form of PI includes explicit instruction and structured input activities. In explicit instruction, teachers give learners explanations of the target grammatical form (i.e., how the grammatical form works) and appropriate strategies to process it (i.e., how to avoid problematic processing strategies). In structured input activities, teachers instruct learners to pay attention to the target form and give them a series of opportunities to make form-meaning connections through listening and reading activities. Structured input activities, which include two types of activities (i.e., referential and affective activities), are designed to force them to process the target form in the input correctly in order to complete the activities; this is why PI can gradually lead them to create correct intake and promote L2 acquisition. Referential activities require learners to process a series of structured inputs to indicate their comprehension by choosing an option. They receive implicit feedback (i.e., "correct" or "incorrect") immediately after each item. Affective activities, on the other hand, require learners to express their own ideas by choosing an option to respond to each statement in the input. This activity, of its nature, has no correct or incorrect answer, so learners process the input, and can answer based on their own ideas. PI is included in the list of focus on form techniques by Doughty and Williams (1998).

The Effects of Processing Instruction

VanPatten and Cadierno (1993) investigated the effect of PI on the development of abilities to comprehend and produce OVS sentences in Spanish. The target processing strategy was the First Noun Principle. Native speakers of English tend to process the first noun as the subject/agent of the sentence, so VanPatten and Cadierno (1993) attempted to change the learners' problematic strategy into a more appropriate one by using PI. Eighty second-year university students speaking English as their L1 were divided into three classes: the PI group (n = 27), the traditional instruction group (n = 26), and the control group (n = 27). In traditional

instruction, learners received explanations of the target form and strategy, and they then focused on producing OVS sentences in oral and written mechanical practice (i.e., transformation and substitution drills), meaningful practice (i.e., simple sentence formation), and open-ended communicative practice (i.e., question and answer, and conversation). The participants in the control group took a pretest and post-tests without instruction. The tests included comprehension tests, in which the participants listened to the target and distractor items and chose a picture which best described the meaning of the input, and production tests, in which they filled in the blanks to complete the target and distractor sentences. The comprehension test results demonstrated that the PI group outperformed both the traditional instruction and control groups, and the traditional instruction group did not outperform the control group. The production test results showed that the PI and traditional instruction groups outperformed the control group, and there were no statistically significant differences between the PI and traditional instruction groups. These findings suggest that (1) PI facilitated input processing (i.e., the process of creating intake) and advanced the participants' developing system, thus, they became able to not only comprehend but also to produce the target form accurately; and (2) the output-oriented instruction (i.e., traditional instruction) could develop their production skills but failed to facilitate input processing.

This study implies that PI and output-based instruction influence the SLA processes differently: that is, while PI facilitates input processing and restructuring, output-based instruction facilitates accessing the developing system effectively and improving production procedures.

Based on the *autonomous induction theory* (Carroll, 2001, 2002), which argues that acquisition mechanisms are initiated when linguistic processing (e.g., speech detection, word recognition, or sentence parsing) fails, Oyama (2017c) hypothesized that receiving implicit feedback during PI is the causative factor for the effectiveness of PI in SLA. According to

Oyama (2017c), PI attempts to elicit L2 learners' failures to create form-meaning connections during structured input activities and to alter a problematic strategy via implicit feedback (i.e., "correct" and "incorrect"). When learners receive feedback, they notice a mismatch between what they are observing and what has been parsed, which triggers the re-evaluation of processing procedures and the restructuring of L2 knowledge. If they do not receive feedback, however, they may feel no need to pay attention to linguistic forms or adjust their processing procedures because it is not apparent to the learners if their comprehension is correct or not. In order to test the hypothesis, Oyama (2017c) compared three types of PI and their effects on the development in the comprehension and production of the English present hypothetical conditional. The three types of instruction included PI with implicit feedback and grammatical explanation (i.e., PI [+ feedback, + explanation]), PI with feedback and without explanation (i.e., PI [+ feedback, – explanation]), and PI without feedback or explanation (i.e., PI [– feedback, – explanation]). The results showed that the participants in the PI [+ feedback, – explanation] condition outperformed those in the PI [– feedback, – explanation] condition, as measured by the comprehension and production tests. This finding suggests that feedback plays an important role in the effectiveness of PI, which is compatible with the hypothesis of the autonomous induction theory.

A meta-analysis study (Shintani, 2015) examined the relative effectiveness of PI and production-based instruction for facilitating the development of receptive and productive knowledge of L2 grammar. The study indicated that PI had large effect sizes (Cohen's d) (mean $d = 2.60$ for comprehension and 2.03 for production). The study also showed that PI was more effective than production-based instruction for developing receptive knowledge, and PI was as effective as production-based instruction for developing productive knowledge.

The Limitations of Processing Instruction

There is no perfect theory or model that can account for everything in SLA. VanPatten (2004) invited commentaries on his input processing model. Among others, for example, Harrington (2004) pointed out that meaning has multiple aspects in the input processing model, so the term "meaningfulness" is difficult to operationalize and test. Carroll (2004) claimed that it could be impossible for learners to process input for meaning before there are forms onto which the meaning can be mapped. These commentaries suggest that there are some issues that VanPatten's (1996, 2004, 2007) input processing model have not successfully explained.

From the perspective of teaching practice in Japanese EFL contexts, based on my teaching experience, there are some reasons why teachers cannot or should not apply PI directly in their own classrooms. First, principles in the input processing model (VanPatten, 2004, 2007) can only deal with grammatical markers related to word order, word form (e.g., verb, noun, and adjective), and inflectional morphemes. Grammatical features, such as wh-movement, article systems, relative clauses, and tense agreement between main and subordinate clauses in English, have not been targeted by previous PI studies. Second, the Event Probabilities Principle and the Contextual Constraint Principle (VanPatten, 2007, p. 121) listed in Table 1 exclude the influences of the contexts in which the target form is used; thus, each item of structured input activities has to be strictly controlled, ordered, and isolated from the context where the grammatical form is naturally used. As a result, it is difficult for teachers to present structured input to learners in natural, realistic, authentic, and communicative contexts, which makes it harder for learners to create appropriate form-meaning-use connections through PI. Table 2 shows some example items of structured input activities.

Table 2

Example Items of Structured Input Activities

Benati (2005, p. 88)

You will hear 10 sentences, and you need to determine whether the action is taking

place now (present) or has already taken place (past).

1. ☐ Present ☐ Past

2. ☐ Present ☐ Past

Instructor's script

1. I listen to music.

2. I walked to the park.

Benati and Lee (2008, p. 101)

Your teacher's life!

Step 1

Read the following statements about things your teacher does and decide whether

he/she does them now or did them last weekend:

He/She	Now	Last weekend
1. … played tennis.	☐	☐
2. … talks to the class.	☐	☐
3. … talked to his mother.	☐	☐
4. … argued with a friend.	☐	☐

Step 2

Now decide in pairs whether your teacher's weekend was an interesting or a boring

weekend.

Marsden and Chen (2011, p. 1067)

Some of Delia's diary entries have got smudged. Decide whether Delia has written about an event that happened in her previous summer holidays or if she is referring to something she usually does in the summer holidays.

1. I learn Spanish.   a. last summer   b. usually does

2. My family visited Paris. a. Last summer   b. usually does

VanPatten and Uludag (2011, p. 47)

Look at the pictures below and choose the sentence that goes with the picture.

1. [Picture Omitted]

    a. The mother hugged her daughter.

    b. The mother was hugged by her daughter.

2. [Picture Omitted]

    a. The woman was served by the woman.

    b. The woman served the man.

As shown in the previous empirical studies of PI, these activities in Table 2 can facilitate creating appropriate form-meaning connections (i.e., intake) because these activities are strictly controlled in light of a series of principles and are carefully designed to direct learners' attention to and to help them to process the target grammatical form. The research procedure is also responsible for producing a large number of empirical studies in the field. However, the theory-based instructional technique cannot always be applied directly in classrooms. The mechanical practice used in PI may demotivate learners from engaging with the teaching materials because the content of the activities or the input materials are uninteresting and irrelevant to the learners.

A more comprehensive, flexible framework is necessary that guides language teachers to develop instruction that effectively facilitates input processing in more meaningful and content-rich contexts.

Input and Affordance

      Affordance. The ecological approach to L2 learning (van Lier, 1996, 2000, 2004), along with sociocultural theory in SLA (Lantolf, 2000), does not view language learning as representing the target language in the brain, but as a perceptual and social activity, where active learners interact with, and are engaged in, the linguistic environment. In this approach, the notion *affordance*, introduced by Gibson (1979), is insightful. Gibson (1979) referred to it as the reciprocity or the complementarity between the individual and the environment. When we perceive the environment, we perceive how it relates to us and how it is useful, important, and meaningful to us. Conversely, if the environment does not relate to us or it is not useful or important for our purposes or further actions, it will not be perceived, and it is meaningless to us. The following quote from van Lier (2004) is helpful in understanding the notion: "If I want to cross a creek, a flat rock rising above the water immediately indicates to me that I can step on it in order to get across. Perhaps it signals nothing of the sort to a small child, whose short legs and limited balancing capacity put the rock out of reach" (p. 91).

      Van Lier (2000) applied the notion to L2 learning and proposed a change from the term input to the term affordance, arguing against the current state of the discussion in SLA which is based on the computational metaphor of language learning (e.g., input, interaction, and output) (Block, 2003). Van Lier (2000) views affordance as follows:

      An affordance affords further action (but does not cause or trigger it). What becomes an

      affordance depends on what the organism does, what it wants, and what is useful for it. …

If the language learner is active and engaged, she will perceive linguistic affordances and

use them for linguistic action (p. 252).

In terms of language learning, the above implies that the meaning of language input does not

exist as an object, but the meaning emerges from the relationship between learners' purposes or

needs and the content of the input. When the notion is applied to input processing, it is suggested

that learners themselves assign their own meaning to the input or they find their own meaning

from the input in relation to their own purposes or needs, thereby affording further actions, such

as thinking of the meaning critically, connecting it to themselves, talking about it, interacting

with others, looking for another relevant input, and paying attention to keywords. These

meaning-making activities should facilitate SLA in terms of both the ecological and cognitive

approaches.

Agency and identity. The notion of affordance crucially involves the *agency* and *identity*

of the individual. These notions are not dealt with as individual differences in cognitive-

approach SLA literature (e.g., Robinson, 2002; Skehan, 1989), but often as sociocultural

constructs (e.g., Benson & Cooker, 2013), and are, therefore, associated with *the social turn in*

SLA (Block, 2003).

According to Duff (2013), agency can be described as follows:

Agency refers to people's ability to make choices, take control, self-regulate, and thereby

pursue their goals as individuals leading, potentially, to personal or social transformation.

… A sense of agency enables people to imagine, take up, and perform new roles or

identities (including those of proficient L2 speaker or multilingual) and to take concrete

actions in pursuit of their goals. (p. 417)

In terms of input processing in L2 learning, agency may represent learners' ability to determine

whether the input material is meaningful or not, or whether it is worth processing or paying

attention to, for their own purposes or goals. For example, a learner exerts agency in the

classroom to determine if the reading activity is worth engaging in according to his/her goal of language learning or interest in the text topic. If not, the learner will perceive reading the text as a meaningless activity, will be unmotivated to read it, and what is worse, will resist reading it, and as a result, may even fall asleep. Language teachers should not forget this aspect of L2 learners or students in the classroom. Learners are not information-processing devices, but meaning-making or value-assigning agents.

When it comes to identity, Norton (2000) views it as "how a person understands his or her relationship to the world, how that relationship is constructed across time and space, and how the person understands possibilities for the future" (p. 5). As Le Page and Tabouret-Keller (1985) put it, actions or displays of agency, such as making informed choices, complying, and resisting in a language-use or -learning situation, can be regarded as acts of identity. In other words, based on the sense of identity, learners exert agency to make choices and decisions according to situations. This is how agency and identity are interwoven.

Summary. Regardless of the educational or research purposes, instruction needs to take these ecological and sociocultural views into consideration. Providing interesting and meaningful L2 input to every student in a classroom is almost impossible because interests, goals, and identities differ according to each individual student. Moreover, meaning emerges from the relationship between learners' goals or identities and the content of the input, suggesting that learners exert agency to make meaning and assign value to the input by themselves. Meaning-making and value-assigning activities are acts of identity.

What teachers can do, then, is to provide opportunities for learners to exert their agency and to open their eyes to the potential personal connections to the content of the input through instruction. Once they notice connections, an affordance emerges between input as the environment and themselves. The present study attempted to develop an example of such instruction and explore its effects on L2 development.

Summary of this Chapter

Evidence has been accumulated that supports the interface positions in instructed SLA. There are various effective instructional approaches and methods based on a theory or model of SLA. Although the present study is based on the cognitive approach to SLA, it is important to keep the ecological and sociocultural views in mind when language teachers and SLA researchers create instruction for the purposes of education or research. In ecological terms, learners perceive how the linguistic environment, or the topic of the input, relates to themselves or how it is potentially useful, important, and meaningful for themselves in achieving their goals.

The present study explains learners' meaning-making or value-assigning mechanisms in light of cognitive and ecological accounts and discusses how the mechanisms affect L2 development on the basis of a more comprehensive, flexible framework (See Chapter 4) than the input processing model (VanPatten, 1996, 2004).

Chapter 4: Modular On-line Growth and Use of Language and its Application to L2

Instruction

Introduction

There are various SLA theories or models, but there is no single comprehensive theory that can account for everything. This is mainly because the processes of SLA are highly complex, and each theory focuses on different aspects of SLA. As pointed out in Chapter 3, language teachers and SLA researchers should not forget to consider learners as meaning-making and value-assigning agents in terms of the ecological perspective. In order to take these aspects into consideration, a more comprehensive, flexible theoretical framework than VanPatten's (1996, 2004) input processing model is necessary for instruction that aims to facilitate input processing effectively in content-rich contexts.

The alternative framework used in the present study is *Modular On-line Growth and Use of Language (MOGUL)* (Sharwood Smith, 2017; Sharwood Smith & Truscott, 2014a, 2014b; Truscott, 2015; Truscott & Sharwood Smith, 2011). The major reason for my selection of MOGUL as an alternative framework to the input processing model is that MOGUL views L2 learners as meaning-making or value-assigning agents by integrating the affective system as an essential construct in human cognition into the framework. It should also be noted that the representation of the self, which includes the notion of identity, is also accommodated in the framework. Based on the concept by Truscott and Sharwood Smith (2004), Truscott and Sharwood Smith (2011) first proposed an explanatory framework named MOGUL to account for the effects of input enhancement on L2 learning. Input enhancement in the MOGUL framework can include various instructional methods and techniques, such as corrective feedback, explicit instruction, input flood, output practice, and textual input enhancement. The framework can explain the effects of various types of instruction because of its flexible and comprehensive

nature. In the following sections, the researcher reviews the MOGUL framework and how it is applied to L2 instruction.

Basic Architecture

MOGUL (Sharwood Smith, 2017; Sharwood Smith & Truscott, 2014a, 2014b; Truscott, 2015; Truscott & Sharwood Smith, 2011) is based on Jackendoff's (1987, 1997, 2002) version of modularity. According to the framework, information processing of human beings consists of language-specific modules (i.e., phonological and syntactic processors) and modules not specific to language (e.g., perceptual, conceptual, and affective processors). Each module is an expert system on a particular function. MOGUL assumes that language processing and development are the results of interaction among the modules. Each module comprises its own processor and memory store (i.e., working memory and long-term memory). The primary function of each processor is to activate the contents of its particular memory store (i.e., structures) and to create new structures. Interfaces between modules are responsible for associating the structures of one processor with those of another and for coactivating them during processing, which enables each of the processors to interact and exchange information with adjacent processors. Figure 2 depicts the basic architecture of the MOGUL framework.
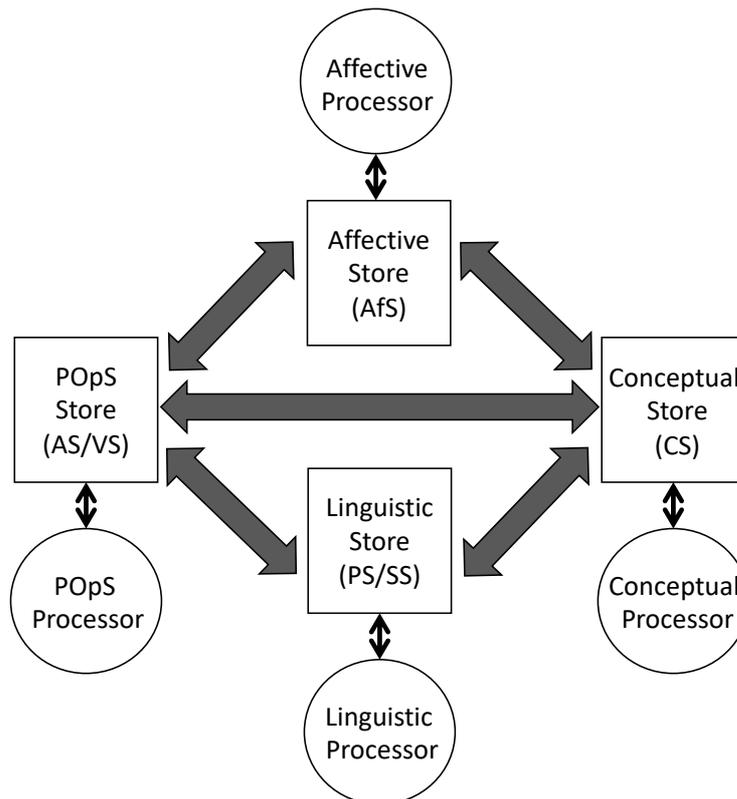
Figure 2. Basic MOGUL architecture (based on Sharwood Smith & Truscott, 2014)

There are four main structures involved in language processing. In the following subsections, the researcher reviews what kinds of information each of the modules processes and stores, based on Sharwood Smith (2017), Sharwood Smith and Truscott (2014), Truscott (2015), and Truscott and Sharwood Smith (2011).

Perceptual output structures. Several different perceptual systems coexist in our minds. They include hearing, vision, taste, smell, and somatic sense. In the MOGUL framework, they are collectively termed *perceptual output structures (POpS)*. Among others, *auditory structures (AS)* and *visual structures (VS)* are especially relevant to language processing.

Like all the other modules, the module called AS consists of a processor and an information store. AS deals with sound waves or auditory representations activated by hearing. AS processes auditory representations and makes them available for further processing, such as phonological and conceptual processing. When the sounds of language are first represented in

AS, they are not yet processed linguistically. Therefore, at this level of processing, the sounds of language are fundamentally not different from the roar of a lion.

The VS module stores and processes visual representations activated by seeing or light striking the retina. A visual memory of an English word as an ink stain printed on a sheet of paper is processed by VS, but it is not processed linguistically. VS is also linked to CS. For example, if you see a dog, the VS memory of a dog activates the CS counterpart, and you understand it as a dog, which may then possibly activate the phonological and syntactic structures associated with a dog.

AS and VS do not store and process linguistic structures, but they process language-related structures, such as the sounds and written forms of language. Although the structures stored in AS and VS are not linguistic, they may be subsequently interpreted by the core linguistic modules.

Core linguistic structures. The core linguistic modules are unique to human beings. The system consists of two independent modules: the phonological module and the syntactic module. Each of them has its own processor and memory store, dealing with *phonological structures (PS)* and *syntactic structures (SS)*, respectively. There are also interfaces that connect them to one another and to other modules (e.g., the AS or VS modules or the conceptual module).

According to Sharwood Smith (2017), PS will process and store representations like segmental features (e.g., [+ voiced] and [– continuant]), suprasegmental features (e.g., stress, rhythm, and intonation), and units (e.g., syllable, coda, vowel, and consonant). If someone says "get," the sound wave triggers AS corresponding to this sound, which then triggers the activation of the PS "/get/" stored in the phonological memory store. If there is nothing to be matched up with the PS structure, the phonological processor will try to build new structures based on construction principles and the context.

The SS module will process and store representations like categories (e.g., Noun, Verb, and

Determiner) and syntactic features (e.g., Tense, Aspect, Gender, Number, and Person). The syntactic processor only knows how to form a correct phrase or sentence according to the principles of a particular language. Taking "get" as an example again, the phonological memory "/get/" is activated strongly enough to be represented in the phonological store, and then it further activates the syntactic counterpart "Verb $_{transitive}$" in the syntactic memory store: "get" = PS [/get/] $\longleftrightarrow$ SS [Verb $_{transitive}$]. The chain of representations between PS and SS will be constructed and strengthened by repeated exposure to related inputs.

Conceptual structures. *Conceptual structures (CS)* process and store various types of conceptual information, including the meanings or concepts of words and functional categories. CS also includes contextual and pragmatic information. CS is located next to the linguistic structure SS, as shown in Figure 2 above, so they are directly connected with each other via an interface. CS can interpret syntactic representations via an interface: "get" = SS [Verb $_{transitive}$] $\longleftrightarrow$ CS [Come to have something].

In addition to the meanings and contextual information of linguistic items, metalinguistic knowledge (e.g., information about how the language works and how to form grammatically correct sentences), which is not linguistic in nature, resides within CS. In other words, explicit instruction about how to use past tense morphology -*ed* will not directly result in the growth of the morpho-syntactic system in PS or SS, but in the growth of CS.

CS is also directly associated with AS. This is why CS can directly interpret auditory representations via an interface. In other words, an AS representation has a kind of meaning. For example, the sound of a doorbell implies that someone is visiting: the sound of the doorbell "ding dong" = AS [/díŋdɔ̀ːŋ/] $\longleftrightarrow$ CS [Someone is at the door].

Furthermore, as discussed in the earlier chapter, the notions of agency and identity are also important in the present study. They are crucially related to the concept of the *self,* which is accommodated as a CS representation, that is SELF, in the MOGUL framework (Truscott, 2015).

The SELF representation constitutes the individual's characteristics (i.e., personality), the concept of who he/she is, or of who he/she wants to be identified with (i.e., identity), and the concept of what he/she aims for (i.e., goal or purpose). In the CS processor, SELF is particularly active, so it is difficult for the processor to build representations that are incompatible with SELF. The connection of SELF to affective representations is discussed in the next subsection.

Affective structures. In the MOGUL framework, the affective system is an important construct that is assumed to influence the information processing of human beings. The content of *affective structures (AfS)* is the set of values and emotions. The primary function of the affective system, or AfS, is to assign value to incoming stimuli basically at a subconscious level. The most basic values are positive and negative. The value is thus the basic representation in AfS. Every emotion has either a positive or negative value of varying intensity. An AfS representation (e.g., value and emotion) at a high activation level and/or with a high-intensity level can reach the individual's consciousness.

As displayed in Figure 2 above, the AfS module has an interface with the POpS and CS modules. When it comes to the core linguistic modules, the connection between the AfS module and the linguistic modules is mediated by the POpS and CS modules. There is no direct link between them.

Truscott (2015) refers to the positive value as *!val!* and the negative one as *!harm!*. The objects with !val! contain positive value for the survival and reproduction instincts of individuals; thus, the !val! value promotes an individual's positive emotions, such as pleasure and happiness. However, the objects with !harm! comprise signals for threats to such human instincts. Therefore, while !val! encourages an approach toward the input stimuli, !harm! encourages avoidance of it. AfS representations are constantly active and easily reach high activation levels. They have a significant influence on all cognitive activities and physical states of human beings. For this reason, affect always guides our behavior, including our decision-

making (Damasio, 1994, 2003). If you have a cuddly dog at home, you may remember it and feel happy when you hear and talk about dogs. This can be explained as follows: "dog" = AS [/dɔːg/] ←→ AfS [!val!] ←→ CS [A Cuddly Animal]. In this way, affect is associated with representations in adjacent modules and determines how the input stimulus is processed, stored, and used.

In terms of MOGUL, if AfS representations are highly active, the individual may be conscious of them, and they are likely to influence processing across the modules (i.e., perceptual, conceptual, and linguistic modules) in direct or indirect ways. When AfS representations and representations in another module are active at the same time, they are connected through associative learning (e.g., Willis, 2005). This is one of the main mechanisms through which AfS facilitates language learning. The researcher will return to this issue in a following subsection.

Additionally, there is an important theory for the purpose of the present study, which should be discussed in this subsection. In social psychology, the positive-negative evaluation of input stimuli is called *stimulus appraisal* (e.g., Arnold & Gasson, 1954; Roseman, 1984; Scherer, 1984, 1999). As a result of the appraisal, emotions emerge as a response to the stimulus. Stimulus appraisals are made along several dimensions. Scherer (1984) identified five evaluation checks: novelty, pleasantness, goal/need significance, coping potential, and norm/self-compatibility. The novelty checks evaluate whether a stimulus is novel or unexpected. The pleasantness checks judge whether a stimulus is pleasant or unpleasant. The goal/need significance checks evaluate whether a stimulus is conducive to achieving a goal or satisfying a need. The coping potential checks assess whether an individual can cope with a stimulus. The norm/self-compatibility checks determine whether a stimulus event or action is compatible with social norms, cultural conventions, or the expectations of significant others (norm compatibility) and whether a stimulus is compatible with the self-concept or ideal self (self-compatibility). For

instance, one of the basic emotions, "joy," which can be a desirable affective reaction to language learning situations, is assumed to comprise high novelty, high pleasantness, high goal/need significance, and high norm/self-compatibility (Scherer, 1984). This model predicts that, for example, a person assigns a positive value to a stimulus that is novel, pleasant, relevant to the person's goal or need, and compatible with social norms and the self-concept, leading him or her to engage with it and enjoy it.

In MOGUL terms, this kind of processing (i.e., stimulus appraisal) can be interpreted as being carried out through the collaboration between the AfS and CS systems. Apart from pleasantness, which should be processed in AfS, Scherer's (1984) five evaluation checks involve the concept of novelty, goal/need, coping potential, norm, and self, which should be processed in the CS system. In other words, it can be assumed that the conceptual processing of novelty, goal, need, coping potential, norm, and self results in a certain state of emotion, which is processed in the AfS system. According to MOGUL (Truscott, 2015), the SELF representation (e.g., personality, identity, goal, and purpose) is strongly associated with other representations in adjacent modules (e.g., perceptual, affective, and possibly linguistic modules). In the perceptual modules, for instance, SELF is connected to visual representations of one's face and auditory representations of one's voice. More importantly, SELF is associated with value representations in the AfS module. Truscott (2015) views the relationship between the SELF representation and AfS as follows:

> Self is, to a very large extent, about the value we assign to the things we are, the things we believe ourselves to be, the things we want to be and also to the things we do and experience. All of these are of the essence for self-regulation (p. 82).

In short, affective representations are inseparable from conceptual representations. An individual assigns a positive or negative value to input stimuli according to the compatibility with the concept of SELF (e.g., self-compatibility in the Scherer's checks) and concepts related

to SELF (e.g., novelty, goal/need, coping potential, and norm compatibility in the Scherer's checks). For example, while an action that is compatible with SELF and its goals will gain a positive value and affect, an action that is incompatible with SELF and its goals will acquire a negative value and affect. The SELF representation has a relatively high activation level. Therefore, this kind of joint processing is likely to be conscious and be available for a verbal report in a diary (Schumann, 1997) or Likert-scale questions (e.g., Clément, Dörnyei, & Noels, 1994; Schmidt & Savage, 1992)

Modular Processing

In MOGUL terms, several different modules (e.g., POpS, PS, SS, CS, and AfS) constitute the information processing of human beings. Each of the modules is an autonomous, domain-specific, expert system. They work based on their own principles. For example, a phonological representation stored in the phonological memory cannot be encoded by the syntactic module. However, in order to process information in language comprehension and production, the modules need to collaborate in a certain way. Interfaces between the different modules enable them to work together according to correspondence rules (Jackendoff, 1997). The following account of modular processing, taken from Sharwood Smith (2014), may contribute to a clearer understanding of this type of processing.

i. A pattern of light waves on the retina triggers the visual system [the perceptual stage].

ii. A representation in *visual* memory is located to match this sensory input.

iii. The matching visual representation is now activated and held in visual working memory.

iv. If the environmental signal is deficient and the first overall match is not perfect, events i-ii may be repeated until the best match is found.

v. The currently activated visual representation triggers an interface between the visual and *conceptual* system, which then activates a match (created by prior experience) and

calls up the appropriate conceptual representation (the meaning).

vi. The matching conceptual representation, now activated, is held in conceptual working memory [the interpretation stage].

vii. Events i-vii may be repeated until the best match is found.

(Sharwood Smith, 2014, p. 46, emphasis in original)

Input processing, which is the target SLA process in the present study, was defined by VanPatten (1996, 2004) as mapping a meaning onto the form of the input stimuli. In the MOGUL perspective, in turn, input processing can be defined as the transition of the input stimuli, which begins at perceptual processing and ends at conceptual processing.

Activation and Development

In the MOGUL architecture, when a representation receives stimulation, it is activated. Each representation has a resting level of activation, which determines its availability for processing. This conception is compatible with, or based on the spreading activation theory in psychology (e.g., Anderson, 1983; Collins & Loftus, 1975; Levelt, 1989 for language production). Representations stimulated or activated recently will have a high resting level temporarily. Representations with high resting levels can be accessed rapidly. On the other hand, newly acquired representations or those which have not been used for long will have relatively low resting levels, which inhibit easy and rapid access. Figure 3 displays the relationship between the resting levels and accessibility of representations. The currently activated representation and a representation at a high resting level, which are located near the top surface of the memory store, are easily accessed and used for processing.

MEMORY STORE

High Accessibility	○ ←	Currently activated representation
↑	○ ←	Representation at a high resting level
↓	○ ←	Representation at a low resting level
Low Accessibility	○ ←	Newly acquired representation
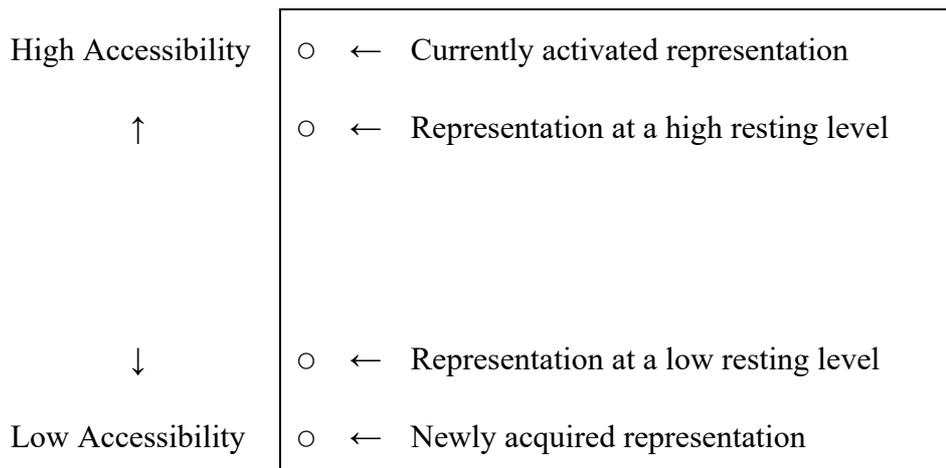
Figure 3. The relationship between the resting levels of representations and their accessibility for processing.

There is a tagging system in each interface, which associates a representation in one memory store with a representation in another memory store. The mechanism is called *coindexing*, which gives the same index to different representations (Jackendoff, 1997; Sharwood Smith, 2017). When a particular representation is activated, it also triggers the activation of representations that are indexed with it. Through this indexing mechanism, activation spreads across the different modules. This process is called *spreading activation* (Sharwood Smith, 2017). For instance, the AS representation /dɔːɡ/ is indexed with the CS representation of dog [A Cuddly Animal]; thus, if the AS representation is activated by input, it also triggers the activation of the CS representation.

During online language processing, when L2-related representations are active, L1-related representations, which are indexed or associated with the L2 representations, are also active. In other words, the interconnected L1 and L2 representations are coactivated. This is why they constantly compete with each other to be used for processing. The more frequently and recently activated representations are, the more their resting levels rise, which leads the representations to dominate their competitors in processing.

The MOGUL framework is located in *acquisition by processing theory* (e.g., Truscott &

Sharwood Smith, 2004), and its basic claim is that "learning is the lingering effect of processing"

(Truscott, 2015, p. 90). Based on the theory, development has a number of aspects. First,

development refers to the increase in resting levels of activation and their intensity. In online

language processing, whenever a particular representation is activated, it will result in a rise in

the activation level and its intensity, which enables it to be accessed and used more quickly and

easily on future occasions. Second, a processor and its store create a new representation by

combining existing representations during processing. The representation is available for future

processing because it lingers after processing. If it then receives stimulation again, its resting

level rises. An index is also a representation. Therefore, the establishment of new associations

across different systems is also a type of development. Third, repeated activation of a particular

representation, including an index, results in strengthening it or raising its resting level of

activation. This effect is called *consolidation*. For newly established representations and those

with low resting levels, consolidation is essential. From another angle, once AS [/dɔːg/] and AfS

[!val!] are coindexed, the re-activation of the shared index will raise the resting level of the

index, and they are consolidated, leading to quick, easy access for future processing. In other

words, AfS [!val!] can raise the activation level of AS [/dɔːg/] via an interface (i.e., coindexing),

and vice versa. Consolidation can be interpreted as a mechanism in which different

representations across modules can facilitate each other's processing.

The Theoretical Rationale for Input Enhancement

As reviewed in Chapter 2, input enhancement (Sharwood Smith, 1991, 1993) is an

instructional technique the purpose of which is to make L2 input features salient so that learners

can pay attention to, notice, and process them. The underlying assumption is that noticing is

necessary for creating intake (e.g., Schmidt, 1990). Input enhancement can be achieved by

various strategies including typographical input manipulation (e.g., boldfacing, highlighting, color-coding, and underlining) for visual input, phonological input manipulation (e.g., oral repetition) for aural input, explicit description of L2 forms, input flood, and explicit or implicit corrective feedback. MOGUL can account for why these different enhancement techniques are effective in promoting L2 learning.

According to the MOGUL framework, a teacher's instruction can target and enhance the processing of each of the perceptual, conceptual, and affective modules in the expectation of facilitating the processing of the linguistic modules. In other words, there are three types of processing that can be enhanced by instruction. Researchers have produced a number of empirical studies to investigate the effects of input enhancement on L2 grammar learning. However, those studies have focused overwhelmingly on perceptual input enhancement (in their terms, textual input enhancement or visual input enhancement). Affective input enhancement, which is the focus of the study, is possible as instruction, but few studies have addressed it. The following subsections review the mechanism of three types of input enhancement and their possible effect on L2 learning.

Perceptual input enhancement. Perceptual processing (i.e., the processing of AS and VS) is the first stage in L2 input processing. In the MOGUL framework, the active AS and VS will be matched up to and further activate the PS and SS counterparts because the perceptual modules and the core linguistic modules are linked to each other directly via an interface. Therefore, if a teacher's instruction can make the target linguistic features salient visually or acoustically, it will make the learner notice and process them linguistically to a greater degree than they might otherwise have done. That leads to rises in the resting level of PS or SS coindexed with the AS or VS structures of the target linguistic forms or to the creation of new PS or SS. In this way, *perceptual input enhancement (Perceptual IE)* is assumed to be conducive to the learning of L2 grammar or vocabulary.

According to Han, Park, and Combs (2008), the findings from textual input enhancement studies were not conclusive. The experiments were conducted under meaningful task conditions with a pretest-posttest design. The treatment period varied from 15 minutes to two weeks. Their target linguistic forms were one or more morphosyntactic features. Their testing measures focused on form-oriented aspects of learning, such as grammaticality judgment, sentence completion, fill-in-the-blanks. The results are mixed: Input enhancement is effective for noticing and acquisition (e.g., Jourdenais et al., 1995), effective for noticing, but not for acquisition (e.g., Izumi, 2002), and not effective for noticing or acquisition (e.g., Leow, et al., 2003). This is due to the idiosyncrasies of the methodologies employed by previous input enhancement studies (Han, Park, & Comb, 2008).

Lee and Huang (2008) conducted a meta-analysis on 16 previous studies of textual input enhancement to examine its overall effectiveness in L2 grammar learning. The results indicated that (1) textual input enhancement had positive, but very small effects (Cohen's $d = 0.22$) on L2 grammar learning in contrast to other treatments without any typological enhancement and (2) textual input enhancement had small negative effects on reading comprehension ($d = -0.26$). This meta-analysis implies that textual input enhancement will facilitate L2 grammar learning, but may hinder L2 reading comprehension.

Conceptual input enhancement. In MOGUL, the linguistic modules are connected with the conceptual module via an interface; thus, the conceptual processing can directly activate and facilitate the processing of PS and SS, resulting in rises of resting levels of PS or SS structures associated with activated CS structures, or strengthening the association between them. The aim of *conceptual input enhancement (Conceptual IE)* is to help learners to create more appropriate CS representations or correct form-meaning connections of vocabulary words or grammatical forms through instruction. The teacher's strategies include explicit description of the target

grammar (e.g., forms, rules, concepts, and contexts in which it is used) and vocabulary (e.g., form, meaning, and contexts) by means of verbal explanation, stories, videos, and pictures.

Conceptual IE will help learners to construct explicit knowledge of the target linguistic features, which is stored in the CS memory store; thus, it will not directly lead to the construction of new PS or SS structures. The more appropriate CS structures will enable learners to comprehend L2 input by accessing the CS structures or explicit information of the targets, making the input more comprehensible. In this way, Conceptual IE will facilitate the development of L2 linguistic systems, including syntactic, phonological, and lexical knowledge.

Affective Input Enhancement

The primary function of the affective system is to assign positive or negative value to perceived input stimuli. The main purpose of *affective input enhancement (Affective IE)* is to guide learners to assign more positive value to L2 input or to reduce the degree of negativity they might have toward L2 input, in the hope of facilitating the linguistic processing and its development. Affective IE is a relatively new concept with interesting potential use in L2 instruction. The following subsections cover the underlying mechanisms of Affective IE, possible strategies for how teachers could implement it in classrooms, and a supportive finding on Affective IE from a psycholinguistic study.

Underlying mechanisms of Affective IE. According to the MOGUL framework, there is no direct connection between the affective system and the core linguistic systems. However, they are mediated by the perceptual and the conceptual systems. In other words, the affective system and the core linguistic systems are indirectly connected via the perceptual and conceptual systems. When it comes to input enhancement techniques, Affective IE is always mediated by CS and POpS; thus, Affective IE is defined as input manipulation on the part of teachers to

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increase learners' affective processing regarding L2 input along with both or either perceptual or conceptual processing.

The AfS representations are constantly active. Once they receive a stimulation, they easily reach high activation levels. Therefore, if an AfS representation is activated by the teacher's instruction, it can also boost the processing of SS and PS via POpS or CS representations that are indexed with the AfS representation. In this indirect way, Affective IE may facilitate L2 input processing, leading to rises in the resting level of activation of representations used for the ongoing input processing, or L2 development in MOGUL terms.

Truscott (2015) used the concept of associative learning to explain the issue of how AfS representations become connected to other representations, such as perceptual, linguistic, and conceptual representations, and how the connections affect the development and the use of language. According to Truscott (2015), when !val! and other representations are active at the same time, they become associated or coindexed, and the value is assigned to the associated representation. If the association already exists, its resting level rises. The activity of !val! raises the resting level of the indexed representation, making it more likely to be used for subsequent processing. Repeated and consistent activation will strengthen the associations.

For example, if a learner successfully communicates his/her regret in the past with the English past counterfactual conditional, the representations involved in the L2 linguistic form may be assigned a !val! representation or a positive value in the form of high self-efficacy, a sense of success, or usefulness. If a learner reads the text and enjoys it, the representations involved in the content words and the grammatical forms used to express the contents of the text may gain a positive value, such as pleasantness, meaningfulness, usefulness, and interest. Those linguistic items that are associated with a positive value are more likely to be embedded deeply in the learner's long-term memory and to be used for future processing.

Like positive values, negative values also influence the processing of the representations involved. For example, a taboo word may have a strong negative value, so it may be highly active and easily accessible. The negative value of the taboo word will be strongly associated with CS structures, such as CS [Inhibit] and CS [Formal Situation], resulting in avoiding the use of the word, especially in formal situations (Sharwood Smith, 2017).

The effects of Affective IE on L2 development, if any, are always mediated by either or both the perceptual system and/or conceptual system. Moreover, as explained earlier, affective processing is inseparable from the conceptual processing of the SELF representation, including identity and goals. When a certain affective representation is active, the SELF representation is likely to be coactivated (Truscott, 2015) because it can be assumed that a certain affective state or emotion results from the processing of the compatibility of the input stimuli with SELF (e.g., goal/need significance and self/norm compatibility) (Scherer, 1984). These underlying mechanisms suggest that activating the SELF representation through instruction (e.g., by giving learners input materials with topics that are likely to be relevant to their identities or goals, or by asking them questions that will encourage them to assign their own values or meanings to input materials, tasks, or learning situations according to their own identities or goals) will be a key to maximizing the effects of Affective IE.

Teachers' techniques for Affective IE. There are various possible methods of implementing Affective IE. Table 3 displays possible enhancement methods.

Table 3.

Possible Methods of Affective IE

Sharwood Smith (2014)

"The teacher 'explains' [attempted conceptual IE], in an 'exciting and stimulating' manner [attempted affective IE], the way YES/NO questions are formed in English, 'highlighting' [attempted perceptual IE] the **DO** form wherever it occurs, pointing out that in sentences like 'They *do* [attempted perceptual IE] not know' 'do' is meaningless and bears no relation to the 'doing' as in 'they do a lot work' [attempted conceptual IE]" (p. 40, emphasis in original).

Sharwood Smith and Truscott (2014)

"For grammar learning … If noting and understanding the form allows the learner to succeed in a communicative activity, the form can thereby become associated with VAL (or its association can be strengthened). In vocabulary acquisition, the perceived usefulness of a new word could significantly enhance its value in the input. Thus, greater success might result from an emphasis on words the learners already consider useful and/or on presenting words in ways that will enhance learners' sense of their usefulness." (p. 275)

Truscott (2015)

"Affective enhancement of input thus means encouraging the creation of positive links and strengthening those that already exist while avoiding or diminishing harmful affective links." (p. 195)

"The most obvious way is to encourage a positive atmosphere for learning and one that minimizes anxiety" (p. 195)

"An important element of value is the perceived usefulness of the forms that are being learned. This point is probably clearest for vocabulary. If learners perceive a particular word as especially useful for them, that word will naturally become associated with !val! and benefit from that association." (p. 196)

"enhancing value means helping learners succeed in their efforts at using the language" (p. 196)

"Enhancing the value of input can also mean reducing or eliminating negative value." (p. 196)

Unlike Perceptual IE (e.g., textual or visual input enhancement), as shown in the examples in Table 3, Affective IE does not refer to external manipulation of input, such as highlighting or boldfacing, but it attempts to internally enhance linguistic processing by increasing the positive affect regarding L2 input. The focus of Affective IE varies according to the examples in Table 3. Some examples refer to the usefulness of the target forms (Sharwood Smith & Truscott, 2014; Truscott, 2015), the sense of success (Sharwood Smith & Truscott, 2014; Truscott, 2015), and the reduction of anxiety (Truscott, 2015). Another example refers to the manner of teaching (Sharwood Smith, 2014). While these examples imply that various types of Affective IE are possible, they do not take into account the ecological and sociocultural views on instruction. More specifically, there is no clear link between these techniques of Affective IE and the concept of SELF. AfS representations and SELF representation should be coactivated to maximize the effects of Affective IE.

Better understanding of the MOGUL framework will enable language teachers to make their instruction more emotionally attractive to their learners, which will enhance the positive side of learners' affect toward L2 input and language learning.

Empirical study of micro-level emotion on incidental L2 vocabulary learning. To examine the effects of here-and-now, moment by moment, and elusive emotion (i.e., micro-level emotion as identified by Kanazawa, 2016) on incidental L2 vocabulary learning in a psycholinguistic setting, Kanazawa (2016) used a free recall task to measure L2 vocabulary learning after an emotional valence judgment task, in which 34 Japanese EFL advanced-level learners rated 390 English words in terms of positive, neutral, and negative. The findings related to the purpose of the present study were as follows: (1) the participants rated emotional words (i.e., in terms of positive, negative, or neutral) more rapidly than neutral words and (2) the participants recalled positive words more significantly than negative words, and marginally more significantly than neutral words. The findings suggest that micro-level emotion (especially positive valence) facilitates the conceptual processing of L2 vocabulary words.

Kanazawa (2016) conducted a psycholinguistic study in a laboratory setting and provided supportive findings for Affective IE as developed by the present study. The present study attempts to explore the effect of Affective IE on L2 development in a classroom setting.

Summary of this Chapter

This chapter reviewed the basic architecture of MOGUL as the theoretical rationale for input enhancement, the nature of processing, and the mechanisms of three types of input enhancement. MOGUL is comprehensive enough to explain the effects of various types of instruction and their underlying mechanisms.

A number of empirical studies investigated the effects of textual (perceptual) input enhancement on L2 text comprehension and L2 grammar learning. A meta-analysis (Lee & Huang, 2008) demonstrated that textual input enhancement had an overall positive effect on L2 grammar learning and a small negative effect on text comprehension.

This chapter also defined Affective IE as developed in the present study and explained how it can influence L2 processing and development. Moreover, the strong connection between affect and the concept of SELF was identified, suggesting that the effects of Affective IE cannot be explained in isolation from the SELF representation.

Chapter 5: Affective Processing in Memory and Second Language Development

Introduction

Researchers in non-SLA research fields have long been studying the relationship between the affect and the memory of humans (e.g., Ellis & Moore, 1999), and have indicated that affect plays a vital role in learning (e.g., Immordino-Yang, 2016; McGaugh, 2004; Phelps, 2006). The underlying mechanisms for the emotional effects on memory are not fully understood, but there are several insightful findings from non-SLA studies that are assumed to lend support to the effects of Affective IE on L2 development. In this chapter, the researcher reviews some of those relevant for the purpose of the present study, and then the researcher reinterprets them from the perspective of the MOGUL framework.

Roles of Affect in Memory

In this section, the researcher identifies the possible effects of affect on memory based on findings from non-SLA research fields.

Spreading activation effect. The spreading activation theory explains the mechanism of memory, including the unit of memory, encoding, retention, and retrieval (e.g., Anderson, 1983; Collins & Loftus, 1975; McClelland & Rumelhart, 1981). According to Anderson (1983), the unit of memory consists of a set of elements (e.g., propositions, images, temporal strings, and concepts) and a set of nodes that connect an element to another element. They form an interconnected network. Retrieval of the elements is carried out through spreading activation. In the associative network model, the activation of a specific unit spreads to the associated units. If a specific unit is activated, the associated unit sharing a node with it will also be activated. The intensity of the activation determines the availability of the units or nodes for retrieval. For example, less active units are processed less rapidly, and an inactive unit may even inhibit

further processing of associated units. The absence of further activation leads to an inactive state of the unit. In contrast, high-frequency units have higher resting levels of activation in the network than low-frequency units.

Bower (1981) proposed that an emotion serves as a unit of memory. An emotion can be associated with other units; thus, the activation of the emotional unit can facilitate the encoding and retrieval of the associated units through the associative network. Simply put, a person who is happy is more likely to encode and recall happy memories. This is because the emotional state "happy" is associated with other things or events involving the same emotional unit in the associative network.

Consolidation effect. In the spreading activation theory (e.g., Anderson, 1983; McClelland & Rumelhart, 1981), a stimulation will raise the resting level and increase the strength or intensity of units used for ongoing processing. The strength or intensity of activation determines the amount of activation that occurs and spreads into the network. When it comes to emotion or affect, it is constantly active and easily reaches a high and strong activation level in order to deal with external stimulation quickly (e.g., something pleasant or something dangerous). Thus, emotional units will have a strong effect on increasing the resting level and intensity of associated units, such as events, concepts, and actions. In other words, units associated with emotion will also have a high resting level and a high intensity, suggesting that the associated units are consolidated in long-term memory. This is what the researcher calls *a consolidation effect*. This effect is compatible with flashbulb memory (e.g., Brown & Kulik, 1977) and mood-congruent or mood-dependent memory (e.g., Ellis & Moore, 1999). When a person experiences a strong emotion or affective state after processing a stimulus (e.g., an event or action), the emotion and the stimulus will be strongly associated. As a result, when a person re-experiences the stimulus, it will evoke the emotion and vice versa.

There are other supportive findings from other perspectives. *Elaboration* is known as a

learning mechanism where a learner adds other information to the target information (Toyota,

2016). The quantity and quality of elaboration determine the availability of the learned

information to be used effectively for retrieval. The added information includes, among other

things, personal experience and emotions. It has been found that emotionally-enhanced

information is consolidated in memory for a longer period of time than neutral information (e.g.,

LaBar & Cabeza, 2006; Talmi & McGarry, 2012; Toyota & Tsuchida, 2008). Moreover, the

performance depends on emotional intelligence, which is the ability to express, understand, and

control individuals' own emotions (Toyota, Morita, & Taksic, 2007).

Additionally, neurobiological studies on affect can provide evidence that will support the

consolidation effect. Cahill et al. (1996) suggested that the amygdala and the hippocampus,

which are respectively responsible for emotion and memory, are located next to each other in the

brain and influence each other; thus, they are interconnected, and they facilitate the activity of

each other. Neurophysiological studies reported the effects of *dopamine burst* (e.g., Cohen,

2005; Schultz, 1998) on strengthening associations between affect and a stimulus or action. The

neurotransmitter, dopamine, which is involved in motor control, positive emotions (e.g.,

pleasantness), sense of reward, and motivation, has a bidirectional anatomical connection with

the prefrontal cortex, which plays a crucial role in working memory and attentional control. The

prefrontal cortex helps to transmit a large amount of dopamine to the affective system. This

mechanism facilitates labeling a stimulus as rewarding, contributing to the strong association

between affect and the stimulus (Truscott, 2015).

Attention-guiding effect. In psychology, it has been argued that emotions will promote

individuals' selective attention to a stimulus consistent with their emotions or their current

affective state (e.g., Bower, 1981; Evans, 2001). Findings from experimental psychology also

suggest that emotions will facilitate selective attention to emotionally salient or emotionally

arousing stimuli in situations where the participants' attentional resources are limited (e.g., Phelps, 2006; Talmi, Anderson, Riggs, Caplan & Moscovitch, 2019). Moreover, it is indicated that the amygdala, which is responsible for emotions, may mediate the effects of emotions on attention (e.g., Anderson & Phelps, 2001; Morris et al., 1998). Overall, these findings imply that stimuli that evoke our emotions will attract our attention.

Roles of Affect in L2 Development from the MOGUL Perspective

In the history of SLA research, Krashen's (1981, 1985) affective filter hypothesis is one of the well-known arguments that elucidates the role of affective factors in SLA. Its main claim is that negative affect (e.g., high anxiety and low self-esteem) inhibits input processing and creating appropriate intake, delaying SLA. Based on Scherer's (1984, 1997) stimulus appraisal model, Schumann (1997) argued that while positive appraisals of the language learning situation (e.g., the target language, the teachers, the syllabus, the text, and the culture in which the language is used) enhance language learning, negative appraisals inhibit it. In order to promote *sustained deep learning* (Schumann, 1997), positive appraisals should be enhanced. Since Dewaele and Pavlenko (2002) examined factors influencing the range and the frequency of the use of emotional vocabulary in interlanguage, emotional dimensions of SLA have attracted the researchers' attention. Dewaele and his colleagues have demonstrated the relationship between positive emotions and various factors predicting successful SLA by examining correlational patterns of foreign language enjoyment (FLE) and foreign language classroom anxiety (FLCA) and their correlations with other factors (e.g., self-reported proficiency levels, the number of languages they know, education level, and so on) (Dewaele & MacIntyre, 2014), gender differences in FLE and FLCA (Dewaele, MacIntyre, Boudreau, & Dewaele, 2016), effects of FLE and FLCA on foreign language performance (e.g., vocabulary knowledge test and the participants' major foreign language test) (Dewaele & Alfawzan, 2018), dynamic relationships

changing rapidly between FLE and FLCA (Boudreau, MacIntyre, & Dewaele, 2018), and the correlation between FLE/FLCA and teacher/learner variables (e.g., attitudes toward the foreign language, the teacher, use of the language, time spent on speaking, and stage of development) (Dewaele, Witney, Saito, & Dewaele, 2018). This research trend is termed *the affective turn in SLA* (Pavlenko, 2013). In this line, a growing number of studies on L2 emotion have been produced in light of *positive psychology* (e.g., MacIntyre & Mercer, 2014).

MOGUL locates the affective system in the heart of the architecture of human cognition to explain the influence of affect on language processing and development (e.g., Sharwood Smith, 2017; Truscott, 2015). For this reason, MOGUL has better explanatory power than Krashen's (1981, 1985) affective filter hypothesis in explaining the influence of affect on L2 development. The following subsections interpret the three possible effects of affect identified above from the MOGUL perspective and explain how those three effects are conducive to L2 development.

Spreading activation effect revisited. In MOGUL terms, affective representations (i.e., AfS), which are constantly, highly active, will boost the activation of an existing chain of representations across adjacent modules (i.e., AS, VS, and CS modules) and raise their resting levels, which subsequently spreads to linguistic processing. The chain of representation activated through spreading activation is in working memory; thus, it is available for use by the processors for ongoing processing (Sharwood Smith & Truscott, 2014b). The spreading activation effect will enable learners to access and retrieve a chain of representations necessary for the current input processing quickly and effectively.

If L2 learners feel that the topic of the text they are reading is interesting or important, the linguistic items expressing the topic (e.g., content words and grammatical forms) may be effectively retrieved and used for comprehension. It is also predicted that, for example, speaking about an interesting or important topic will result in better quality and larger quantity of the speaking performance than speaking about a boring topic.

Consolidation effect revisited. Based on the MOGUL framework, highly active AfS will further activate associated representations in adjacent modules, which potentially creates and strengthens a new chain of representations, e.g., AfS–CS–SS or AfS–AS–PS, through associative learning, or strengthens the activation of an existing chain of representations. This mechanism will allow the representations to be consolidated in long-term memory.

When it comes to L2 development, the consolidation effect will enable learners to strengthen the connection between AfS and associated representations, which may be existing or newly established, leading to the consolidation of linguistic features or items in long-term memory. For example, if learners learn a new vocabulary word in an exciting context, the AfS representation (i.e., EXCITING) will be assigned to the concept and the linguistic features of the word, and this will strengthen the connection between them. This effect will enable learners to access the word rapidly, use it more frequently, and consolidate it.

Attention-guiding effect revisited. Representations associated with a particular AfS will attract our attention. In other words, we pay attention to what is important to us and what we care about, and, moreover, we learn what we pay attention to (Truscott, 2015). The attention-guiding effect will enable learners to pay attention to representations linked to a particular AfS, facilitating perceptual processing in the AS and VS systems. For example, if learners are interested in the topic of the text they are reading, they may pay attention to linguistic items that best express the contents of the topic.

The Integration of the Three Effects of Affective Processing

The three effects reviewed above (i.e., the spreading activation, consolidation, and attention-guiding effects) are integrated into the MOGUL framework, as displayed in Figure 4 below. Four modules are placed in the figure: the perceptual, linguistic, conceptual, and affective modules. In each of the modules, there are some circles, which stand for representations, and the

size of the circles indicates the resting level or the availability for ongoing processing. The larger representation has a higher activation level. Lines indicate the associative relationships between representations. Thicker lines represent stronger connections than thinner lines. Arrows show the direction of the spreading activation.

As depicted in Figure 4, the affective representation "!val!" is constantly highly active. The activity spreads to and further activates the other associated representations or emotions within the module, such as "pleasant" and "interesting." Its connection with "boring" is so weak that the resting level of activation is very low. The high activation of "!val!" also spreads to associated representations in the adjacent perceptual or conceptual modules (i.e., the spreading activation effect) and builds strong associations in memory (i.e., the consolidation effect). Furthermore, the perceptual and conceptual representations associated with !val! boost the activation of linguistic representations (i.e., "/kʌltʃər/" and "Noun"). The high and strong activation increases the likelihood of the representations being used for ongoing processing, leading to fast and efficient processing and linguistic development. In addition, the higher the activation level, the more an individual is likely to be aware of the representation, thereby attracting his/her attention (i.e., the attention-guiding effect), which will also promote the development of the system as a whole.

Because the three possible effects of affect (i.e., the spreading activation, consolidation, and attention-guiding effects) are intertwined with each other, the present study cannot identify which effect contributes to which part of the learning outcomes through a quasi-experiment conducted in a classroom setting. However, the researcher argues that their composite effects will facilitate L2 development.
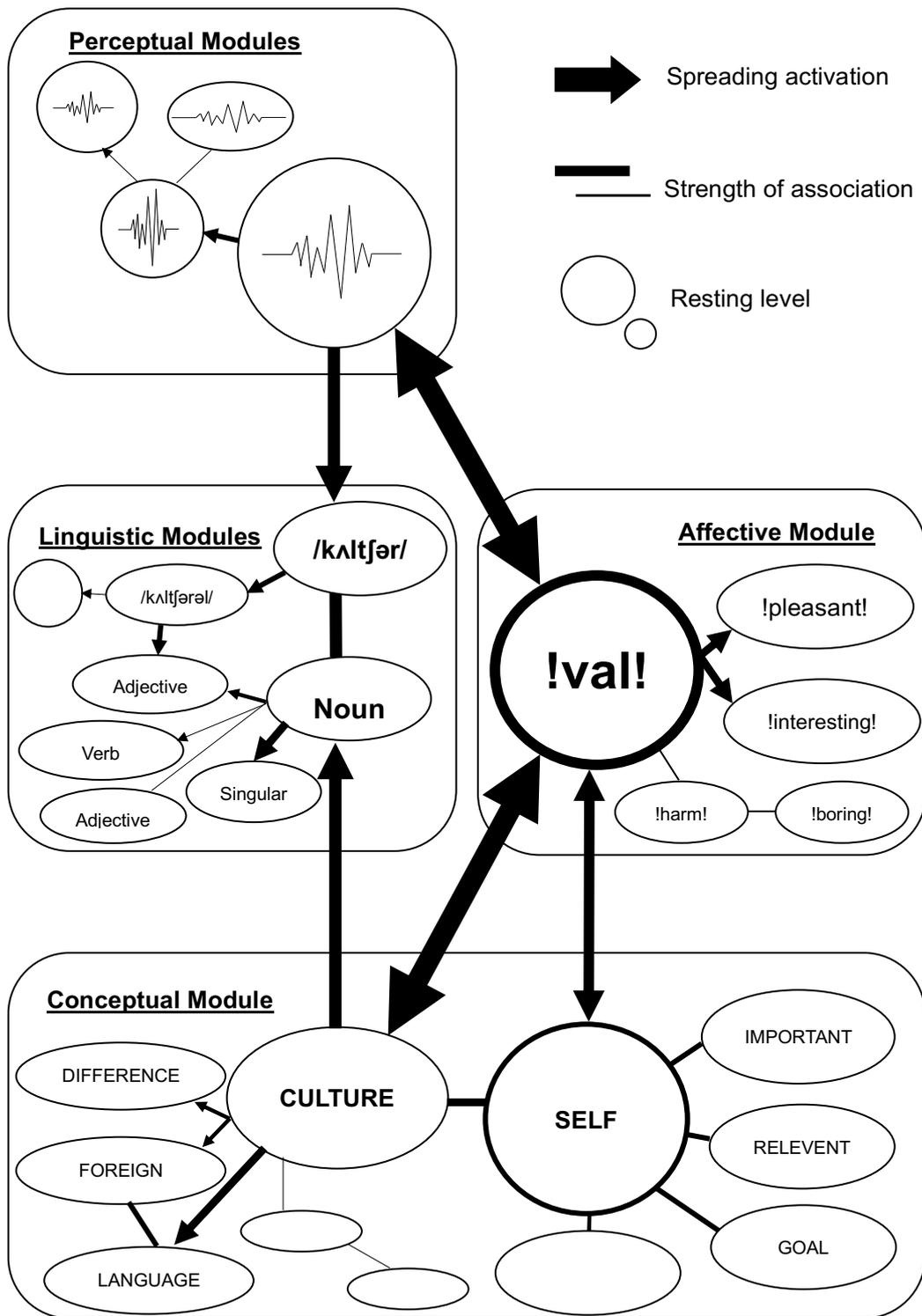
Figure 4. The effects of affective processing on processing in adjacent systems.

Summary of this Chapter

Studies in different research fields have provided evidence that seems to support the effects of affective processing on L2 development. Three possible effects were identified: the spreading activation effect, the consolidation effect, and the attention-guiding effect. They are all compatible with the MOGUL framework. Based on these findings from the related studies, the present study devises instruction that enhances learners' positive affect regarding L2 input and examines its effect on L2 development.

Chapter 6: Related Studies on the Acquisition of the Target Linguistic Features

Introduction

The present study explores whether Affective IE facilitates the learning of two grammatical forms and vocabulary words. The target grammatical forms are the English object of a preposition type relative clause and the English present hypothetical conditional. The target features of English vocabulary words are two aspects of vocabulary knowledge, that is, form and meaning. This chapter discusses why they are selected as the target items, and it reviews related studies on the acquisition of those linguistic items.

The instructional technique used in the present study was Affective IE, and there has been no similar study in the field of instructed SLA. Therefore, when discussions about the target items in relation to effect-of-instruction studies are necessary, this chapter focuses on previous studies on the effects of textual input enhancement (i.e., Perceptual IE) and explicit instruction (i.e., Conceptual IE).

Studies on the Acquisition of English Relative Clauses

English relative clauses are frequently used in a variety of situations, and, therefore, they have high communicative value as an English grammatical form. The primary function of restrictive relative clauses is to provide necessary information to clarify and restrict the head noun phrase (NP) by using a restricting clause. The following sentences a and b are examples of relative clauses with a subject gap and an object gap, respectively. Understanding the position from which the head NP is extracted is the key to the correct processing of a sentence with a relative clause.

    a. The man who kissed Mary was John.

      [The man$_i$ [who ___$_i$ kissed Mary] was John.]

b. The woman who John kissed was Mary.

[The woman$_i$ [who John kissed __$_i$] was Mary.]

According to Keenan and Comrie (1977), different languages vary systematically according to which NP positions can be restricted or relativized. Based on the typological observation of the differences in NPs that can be relativized, Keenan and Comrie (1977) proposed the Noun Phrase Accessibility Hierarchy (NPAH) that indicates the relative accessibility to relativization of NP positions in main clauses as follows: subject (SU) > direct object (DO) > indirect object (IO) > major oblique case NP (OBL, or object of a preposition in English [OPREP]) > genitive (GEN) > object of a comparison (COMP) (A > B means that A is more accessible than B in the hierarchy). This does not necessarily mean that any language distinguishes all of these clauses. An example of each type of relative clause in English is displayed in Table 4.

Table 4.

An example clause of each category

SU "The woman"	The woman who kissed John…
DO "the woman"	The woman who John kissed…
IO "the woman"	The woman who John gave the book to...
OBL/OPREP "the woman"	The woman who John was looking for...
GEN "the woman"	The woman whose son is a doctor…
COMP "the woman"	The woman who John was taller than…

In terms of typological universals, the hierarchy is assumed to be implicational (e.g., Izumi, 2003b; Keenan & Comrie, 1977). In other words, if the more marked form of the relative clauses (e.g., OBL, or OPREP) is allowed in a language, it also allows the less marked forms

(e.g., SU, DO, and IO), but the converse is not true. The hierarchy is paralleled with the relative

psychological difficulty of processing the relative clauses, suggesting that the more marked

relative clauses are more difficult to process, and thus more difficult to acquire than the less

marked or unmarked relative clauses (e.g., Doughty, 1991; Izumi, 2003b). As Izumi (2003b)

mentioned, the prediction of the NPAH has gained considerable support from empirical studies

conducted in the context of the effect-of-instruction studies (e.g., Doughty, 1991; Eckman, Bell,

& Nelson, 1988; Pavesi, 1986). Moreover, the instructional implications of the NPAH are

compatible with Zobl's (1985) projection model of acquisition, claiming that the acquisition of

marked features could trigger the acquisition of unmarked features, which are implicationally

clustered with the marked features.

One of the target forms in the present study is the-object-of-a-preposition-type relative

clause, coded as OBL (Keenan & Comrie, 1977) or OPREP (Doughty, 1991; Izumi, 2003). This

target form (henceforth, the OPREP relative clause) was chosen for two main reasons. First, the

OPREP relative clause is a typologically more marked type of relative clauses than the SU, DO,

and IO relative clauses; therefore, it was supposed to be difficult to process and acquire for the

participants in the present study (i.e., first-year university students). Second, the English relative

clauses, including the OPREP relative clause, are assumed to be not yet fully acquired by most

Japanese university students because relative clauses are ranked as B2 level grammatical forms

in the Common European Framework of Reference for Language (CEFR) (British Council,

2015). According to the survey conducted by the Japanese Ministry of Culture, Education,

Sports, Science, and Technology (2016), over 96% of third-year high school students belong to

the A1 or A2 levels in English listening, reading, speaking, and writing skills. Moreover, over

66% of them are at the A1 level in listening and reading skills, 87% are at the A1 level in

speaking, and 80% are at the A1 level in writing. Even though the proficiency level of the

participants in the present study was, on average, B1 on the CEFR as measured by the English

Proficiency Test 2019 (NHK Publishing, 2019) (see the Participants section in Chapter 7), relative clauses seemed to have not yet been acquired; therefore, the relative clause is an appropriate target form to instruct Japanese university students.

There have been some empirical studies conducted in ESL contexts that investigated the effects of textual enhancement on the acquisition of L2 relative clauses. Doughty (1991) investigated the effects of L2 instruction on the acquisition of English relativization based on the markedness theory (e.g., Keenan & Comrie, 1977) reviewed above. Doughty (1991) compared two different instructional methods and a control group, where the participants were merely exposed to the target linguistic features (i.e., the OPREP relative clause). The two experimental groups included a meaning-oriented-instruction group (MOG), where the participants received textual enhancement while reading an L2 text, and a rule-oriented-instruction group (ROG), where the participants received explicit instruction on English relativization while reading an L2 text. Three testing measures were employed: written sentence combination tests, grammatical judgment tests, and oral picture-cued production tests. The results showed that (1) the two experimental groups outperformed the control group overall; (2) the two instructional techniques were equally effective for promoting the acquisition of relativization, but the MOG, which was accompanied by textual input enhancement, was more effective for comprehension of the text that contained the OPREP relative clause; and (3) the projection model of acquisition (e.g., Zobl, 1985) was supported.

Izumi (2002) compared four instructional treatments composed of the combinations of output practice (+/– O) and textual input enhancement (+/– IE): + O + IE, + O – IE, – O + IE, and – O – IE. The target form was the OPREP relative clause. In the + O treatments, the participants were required to reconstruct a text as accurately as possible twice. The first reconstruction task was after reading the text to find the gist. The second one was after reading the same text again. In the +IE conditions, the participants received enhanced input text after the

first text reconstruction task. The effects of instruction were measured by sentence combination tests, picture-cued sentence completion tests, interpretation tests, and grammaticality judgment tests. Focusing on the effects of IE (i.e., – O + IE vs. – O – IE), the results showed that there were no statistically significant differences between the [– O + IE] group and the [– O – IE] group in any testing measures, but both groups improved their overall test scores from the pretest to the post-test. The effect sizes of the composite gain score means for the two groups were 0.34 for the [– O + IE] group and 0.37 for the [– O – IE] group.

In the MOGUL framework, the rule-oriented instruction used in Doughty (1991) can be interpreted as Conceptual IE, an attempt to boost the activation of conceptual representations related to the OPREP relative clause. This takes place with a view to further activating the linguistic representations of the target form. In contrast, the meaning-oriented instruction that included textual input enhancement (Textual IE) (i.e., perceptual input enhancement in the MOGUL terms) will activate perceptual representations of the OPREP relative clause, which may further facilitate the linguistic processing of the target form. The findings from the study suggested that the Perceptual IE and Conceptual IE techniques were equally effective for the learning of ESL relativization, while perceptual input enhancement was more effective for comprehension of the text that contained examples of the target form. However, taking Izumi's (2002) study into consideration, it can be said that the results are mixed. It is not clear whether Textual IE is effective in facilitating the acquisition of English relativization.

Furthermore, no study has investigated the effects of Affective IE on the learning of English relativization.

Studies on the Acquisition of the English Present Hypothetical Conditional

The other target grammatical form in the present study was the English present hypothetical conditional. It is a useful grammatical form to express feelings such as regret in the present and a current wish for something impossible or unreal. There are some different expressions of the present hypothetical conditional: a sentence with an *if* subordinate clause (e.g., "If I had much money now, I could buy this book."), a sentence with *wish* (e.g., "I wish I could be with you."), and a sentence with an inversion of the subject and (auxiliary) verb (e.g., "Were I you, I wouldn't say that."). Among them, the target conditional form is the conditional sentences with an *if* clause. The British Council (2015) ranked English conditionals as B1 level in the CEFR, the level of the participants in the present study (See the Participants section in Chapter 7). This grammatical form is an appropriate target form for Japanese university students.

Japanese EFL learners may face some difficulties in processing and acquiring the present hypothetical conditional (e.g., Oyama, 2017c). First, English conditional sentences express two types of meaning: temporal (e.g., *present* or *past*) and propositional (e.g., *the fact* or *contrary-to-the-fact*). Learners need to process the form for the two types of meaning at the same time within limited attentional resources (e.g., Cowan, 1999). This temporarily increases the cognitive load of processing the form and meaning, leading to a failure to process the grammatical form correctly. Second, Japanese EFL learners must create a new association between the past verb form and the temporal meaning (i.e., *present),* when they learn the present hypothetical conditional for the first time in senior high school. In order to do so, they have to restructure the existing association between the past verb form and the temporal meaning *past*. This will be another source of the difficulty they face when they learn the grammatical form. Finally, the difference between the form of the factual conditional and that of the hypothetical or counterfactual conditional is not clear in the Japanese language (Thompson, 1987). Therefore, positive transfer from L1 Japanese to L2 English is not available for Japanese EFL learners. For

these reasons, instruction that aims to facilitate the learning of the English present hypothetical conditional is meaningful for the participants in the present study to overcome these possible difficulties.

As far as the researcher can find, the study by Fukuya and Clark (2001) is one of a limited number of studies that investigated the effects of Textual IE on the acquisition of the English present hypothetical conditional in the ESL context. It should be noted that this study dealt with the grammatical form as part of the expressions of mitigators in requests (i.e., pragmatic functions to reduce the imposition force of requests). The expressions included "perhaps," "possibly," "I'd be grateful if…," "I'd appreciate it if …," "I was wondering if …," and "I know…, but…." Among them, the mitigator "I was wondering if I could audit the class" is an example of the present hypothetical conditional. Fukuya and Clark (2001) examined the effects of two different instructional approaches and a control group: focus on forms (i.e., explicit instruction), focus on form (i.e., input enhancement), and the control treatment (i.e., without explicit instruction or input enhancement). In the focus on forms instruction, the participants watched a video with 30 scenarios of requests with explicit instruction on mitigators. In the focus on form instruction, the participants watched the same video without explicit instruction but with typographically enhanced captions during the 30 requesting scenarios. The effects of instruction were tested with only the between-subject design by a listening comprehension test and a pragmatic multiple-choice test. The results showed that there were no statistically significant differences among the scores of the three groups on both testing measures, suggesting that this study could not establish the effect of instruction on the learning of pragmatic mitigators in English.

Instruction for the focus on forms and focus on form groups can be regarded as Conceptual IE and Perceptual IE, respectively. From the MOGUL perspective, both of them were designed to enhance the linguistic processing of the mitigators, including the present

hypothetical conditionals by means of activating either of the conceptual or perceptual representations of the target expressions. The effects of instruction were not evident in Fukaya and Clark (2001). More research is necessary to investigate the effectiveness of input enhancement on the learning of the English present hypothetical conditional.

Moreover, as far as the researcher knows, no study has investigated the effects of Affective IE on L2 grammar learning.

Studies on L2 Vocabulary Acquisition from the Perspective of the Multiple-dimension Approach and Input Enhancement

This section reviews L2 vocabulary acquisition research in terms of the multiple-dimension approach and input enhancement.

Different types of L2 vocabulary knowledge. The target linguistic features include knowledge of English vocabulary. Although research in L2 vocabulary acquisition had focused on the acquisition of semantic aspects of words, L2 vocabulary knowledge consists of multiple dimensions, such as form, meaning, and use (e.g., grammatical collocation and pragmatic constraints) (Nation, 2001). Based on this assumption, a growing number of studies have explored incidental vocabulary acquisition from reading (e.g., Pellicer-Sánchez & Schmitt, 2010; Pigada & Schmitt, 2006) and listening (e.g., van Zeeland & Schmitt, 2013). It is important to look not only at meaning but also form and use, because, as pointed out by Schmitt (1998), learners can acquire other types of vocabulary knowledge when they do not seem to have semantic knowledge as a result of exposure to input.

The psycholinguistic rationale for this view can be found in Levelt's (1989) production model. According to Levelt (1989), the processes of speech production are "lexically driven" (p. 181), which means that the grammar, morphology, and phonology are determined by the choice of particular words in the production processes through the conceptualizer, formulator, and

articulator. The words are stored in the lexicon, which the formulator accesses while constructing syntactic and phonological plans to deliver the intended message. The formulation is carried out through spreading activation. The lexicon contains two components: lemma and form. The lemma consists of semantic information (e.g., the conceptual specification and arguments of conceptual function), syntactic information (e.g., the category of the entry word and grammatical functions of the arguments), and additionally, pragmatic information (e.g., registers, stylistic and affective features). The form component contains the morphological information (e.g., tense, aspect, person, mood, and number) and phonological information (e.g., segmental features, syllables, pitch, accent, and intonation). The components of the lexicon, i.e., the morphological and phonological forms (form), syntactic information (use or grammar), and semantic information (meaning), in the lexically-driven model of language use (e.g., Levelt, 1989) are paralleled with the multiple-dimension approach to L2 vocabulary acquisition research (e.g., Pellicer-Sánchez & Schmitt, 2010; Pigada & Schmitt, 2006; van Zeeland & Schmitt, 2013).

Empirical studies of the multiple-dimension approach. There are several empirical studies that employed the multiple-dimension approach to L2 vocabulary acquisition. Pigada and Schmitt (2006) conducted a case study with one learner of French to examine incidental L2 vocabulary learning from extensive reading using three vocabulary knowledge tests: form (spellings), meaning (form-meaning associations), and use (grammatical functions). The target vocabulary words (i.e., nouns and verbs) differed according to their occurrence in the input text. The results showed that (1) overall more than 65% of the target words were learned in terms of the three dimensions; (2) while the learning of word spellings required very few exposures, 20 or more exposures were necessary for the grammatical information of 80% of the words to be learned; (3) the learning of meaning does not seem to be affected by the frequency of exposure; and (4) there were differences in the extent to which each type of vocabulary knowledge was

learned, that is, the learning of spelling benefited most from extensive reading, which was followed by the learning of grammatical and semantic aspects.

To examine incidental vocabulary learning from reading an authentic novel, Pellicer-Sánchez and Schmitt (2010) used multiple vocabulary knowledge tests, such as form (spelling), use (word class), and meaning (recognition and recall of the word meaning). The participants were 20 Spanish learners of English as a foreign language. The results also indicated that they improved overall in the three types of tests. The order of the best-learned knowledge in the study was: meaning, spelling, and word class.

Also, in listening studies, van Zeeland & Schmidt (2013) reported similar findings; the 30 participants with 17 different L1s demonstrated overall gains in all the three measures: form (aural form), use (grammatical category), and meaning (recall of the meaning). The order of the best-learned knowledge in the study was: form, grammar, and meaning.

In summary, these findings suggest that incidental vocabulary acquisition occurs from reading and listening, and the frequency and the type of knowledge (i.e., form, grammar, and meaning) may affect the outcome. In L2 vocabulary acquisition research, it is a necessary point of view that the outcomes of L2 vocabulary learning from input exposure differ according to the type of knowledge.

Effects of input enhancement on L2 vocabulary acquisition. While the number of research studies is larger in the context of L2 grammar learning, findings have been accumulated from empirical studies on Textual IE and L2 vocabulary acquisition. Barcroft (2003) examined the effect of Textual IE, i.e., boldfacing and using a larger font, with different frequencies of enhanced words, for example, nine out of 24 words (in experiment 1) or three out of 24 words (in experiment 2), in the context of intentional vocabulary learning. The participants in experiment 1 were 15 English-speaking learners of Spanish and 21 English-speaking learners of Spanish in experiment 2. They were asked to learn Spanish vocabulary words in a list of 24

words. The outcome of learning was measured by L1-to-L2 and L2-to-L1 recall tasks. The results showed that (1) enhancing nine out of 24 words had no statistically significant effect on the participants' learning of the target word, but (2) three out of 24 words had positive effects of the participants' learning of the Spanish words. Barcroft (2003) explained the findings based on the concept of distinctiveness, defined as "the degree to which an item in the input diverges from the form in which other items in the input are presented" (p. 47), which means the three words enhanced by boldfacing and a larger font were more distinctive than those in the nine-word condition. The distinctiveness of the enhanced words might have contributed to the better learning of the participants in experiment 2.

Kim (2006) compared the following types of input enhancement techniques for L2 vocabulary learning: lexical elaboration (explicit and implicit), typographical enhancement, and combinations of both. The participants were 297 Korean-speaking EFL learners. The testing measures included form- and meaning-recognition tests. Explicit elaboration provided the participants with a definition of each word with the phrase "which means" in the reading material. Implicit elaboration provided them with a definition without the phrase "which means" in the same text. In the typographical enhancement conditions, each target word was enhanced by boldfacing in the same text. The findings related to the purpose of the present study are as follows: (1) typographical enhancement alone demonstrated no effect on the vocabulary learning as measured by the form- and meaning-recognition tests; (2) only explicit lexical elaboration demonstrated a positive effect on the learning of meaning of L2 vocabulary, compared to no elaboration treatment, but not on the learning of form; (3) while lexical elaboration combined with typographical enhancement was not effective for the learning of form of L2 vocabulary words, it was effective for the learning of their meanings; and (4) explicit and implicit lexical elaborations did not differ in the effects on L2 vocabulary learning in terms of both form- and meaning-recognition.

In the MOGUL perspective, typographical enhancement used in Kim (2006) is viewed as Perceptual IE, and lexical elaboration can be regarded as Conceptual IE. Both of them will enhance the processing of L2 vocabulary words, either perceptually or conceptually, in the hope of boosting the linguistic processing of the enhanced words. Kim's (2006) results indicated that the explicit type of Conceptual IE was effective in facilitating the learning of word meanings, but Perceptual IE was not effective in the learning of the word form and meaning. Moreover, the combination of the two types of IE techniques was found to be effective in the learning of the word meaning.

There is another line of research on input enhancement and L2 vocabulary acquisition. Glossing, which is defined as "a brief definition or synonym, either in L1 or L2, which is provided with the text" (Nation, 2001, p. 174), is a way of enhancing target words. A number of empirical studies have been conducted on the effects of glossing on L2 vocabulary acquisition (e.g., Goudarzi & Moini, 2012; Hulstijn, Hollander, & Greidanus, 1996; Rott, Williams, & Cameron, 2002). For example, Goudarzi and Moini (2012) investigated whether enhancing English collocations by boldfacing or enhancing them by L1 glosses had differential effects on 60 Iranian EFL learners' acquisition of English collocations. The participants were divided into three groups: the highlighted group ($n = 20$), the L1 glossed group ($n = 20$), and the non-highlighted group ($n = 20$). The testing measure used in the study was a collocation test, which required the participants to choose an option to fill in the blank to complete a sentence. The results revealed that (1) the L1 glossed group outperformed the highlighted and non-highlighted groups in the immediate and delayed post-tests, and (2) the highlighted group outperformed the non-highlighted group in both post-tests.

In MOGUL terms, glossing in L1 as used by Goudarzi and Moini (2012) can be viewed as Conceptual IE, which aims to facilitate conceptual processing of the target words in a text to aid linguistic processing and development. Goudarzi and Moini (2012) found that Conceptual IE

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was more effective for L2 vocabulary acquisition than Perceptual, or Textual IE by comparing the two different techniques of input enhancement. However, the results should be interpreted with a caveat because the collocation tests used in the study were biased in favor of conceptual processing of the collocations (i.e., the L1 glossed group) but not in favor of their formal or perceptual processing (i.e., the highlighted group). As suggested by Nation (2001) and Levelt (1989), knowledge of L2 vocabulary comprises different types of knowledge: form, meaning, and use. Therefore, the researcher argues that the effects of input enhancement on L2 vocabulary acquisition should be investigated from the perspective of the multiple-dimension approach, focusing on both perceptual processing (i.e., form) and conceptual processing (i.e., meaning and use) of L2 words.

Summary of this Chapter

The present study targeted the learning of three linguistic items: the English OPREP relative clause, the English present hypothetical conditional, and English vocabulary words. The two grammatical forms were assumed not to have yet been fully acquired by the participants in the present study (i.e., first-year university students). The results of the empirical studies on Textual IE (e.g., Doughty, 1991; Izumi, 2002) targeting the OPREP relative clauses are mixed. The effects of Textual IE on the learning of the present hypothetical conditional remains unclear. L2 vocabulary acquisition has not previously been examined in input enhancement research from the perspective of the multiple-dimension approach to L2 vocabulary knowledge. Furthermore, in the field of instructed SLA, no study has investigated whether Affective IE has a positive impact on the learning of these target forms, firmly based on a theoretical framework (i.e., MOGUL), which explains the underlying mechanisms in the effects of input enhancement.

Chapter 7: The Present Study

Research Questions

Based on MOGUL as the theoretical framework (Sharwood Smith, 2017; Sharwood Smith & Truscott, 2014a, 2014b; Truscott, 2015; Truscott & Sharwood Smith, 2011) and the previous findings from non-SLA studies on affect (e.g., Anderson & Phelps, 2001; Bower, 1981; Cahill et al., 1996; Evans, 2001; LaBar & Cabeza, 2006; Scherer, 1984; Talmi & McGarry, 2012; Toyota & Tsuchida, 2008), it can be predicted that instruction that aims to enhance learners' positive affect regarding L2 input (i.e., Affective IE) facilitates L2 development. The present study addresses the following research questions (RQs). There is no previous study on the effects of Affective IE on L2 development in the instructed SLA context; therefore, to an extent, these questions are exploratory.

RQ 1: Does Affective IE facilitate L2 learners' positive evaluation of the text topic?

The basic function of affective processing is to evaluate the input stimuli or to assign a positive or negative value to the input stimuli. Scherer (1984) identified the five evaluation checks (i.e., novelty, pleasantness, goal/need significance, coping potential, and self/norm compatibility) used by an individual to evaluate the input stimuli. Affective IE proposed in this study attempted to facilitate the participants' positive evaluation of the text topic used in an instructional treatment. Therefore, this research question was formulated. The participants' evaluation of the topic was measured by a questionnaire.

RQ 2: Does Affective IE facilitate L2 learners' text comprehension?

Affective IE was designed to facilitate positive affective reaction to the text topic in the hope of enhancing the linguistic processing of the text. If the linguistic processing of the text is

facilitated, the participants will comprehend the text more easily and learn more pieces of information from the text. The contrast groups received either Perceptual IE or Conceptual IE, intended to boost the linguistic processing of the text via either perceptual or conceptual processing. There is no previous study that compared the three input enhancement techniques in terms of their effects on text comprehension.

RQ 3: Does Affective IE have an effect on L2 learners' learning of vocabulary?

RQ 4: Does Affective IE have an effect on L2 learners' learning of grammatical forms?

RQ 5: Does Affective IE have an effect on L2 learners' development of productive skills in the use of grammatical forms?

RQs 3, 4, and 5 examine whether Affective IE is conducive to L2 learning in terms of vocabulary and grammar. The underlying assumption of these RQs is that if the participants evaluate the text topic positively, the positive affective state will enhance, and will be associated with, the perceptual and/or the conceptual processing of the words or grammatical forms that express the text topic, subsequently facilitating the linguistic processing and development of the linguistic items.

Although the findings are mixed, previous studies on Perceptual IE and Conceptual IE have demonstrated some types of effects on L2 grammar learning (e.g., Doughty, 1991; Izumi, 2002; Lee & Huang, 2008) and L2 vocabulary learning (e.g., Barcroft, 2003; Goudarzi & Moini, 2012; Kim, 2006). There is no study that compared the three input enhancement techniques in terms of their effects on L2 grammar and vocabulary learning.

Hypotheses

The following hypotheses were formulated to address the RQs. There is no empirical study that has provided evidence for the effects of Affective IE in instructed SLA; therefore, all the hypotheses were formulated in the form of null hypotheses.

Hypothesis 1: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their scores for affective evaluation of the text topic.

Hypothesis 1 was formulated to answer RQ 1, which examines the effects of Affective IE on the participants' positive evaluation regarding the text topic, as measured by a Likert-scale questionnaire.

Hypothesis 2a: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their scores for text comprehension as measured by multiple-choice questions.

Hypothesis 2b: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their scores for text comprehension test as measured by a free-response question.

Hypothesis 2 concerns RQ 2, which investigates the effects of Affective IE on the participants' comprehension of the text, as measured by two types of text comprehension check tests: multiple-choice questions (Hypothesis 2a) and a free-response question (Hypothesis 2b).

Hypothesis 3a: There will be no statistically significant difference between pretest and immediate post-test scores for the written vocabulary test (form section) for the Affective IE group.

Hypothesis 3b: There will be no statistically significant difference between pretest and delayed post-test scores for the written vocabulary test (form section) for the Affective IE group.

Hypothesis 3c: There will be no statistically significant difference between immediate post-test and delayed post-test scores for the written vocabulary test (form section) for the Affective IE group.

Hypothesis 3d: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their immediate post-test scores for the written vocabulary test (form section).

Hypothesis 3e: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their delayed post-test scores for the written vocabulary test (form section).

Hypothesis 3f: There will be no statistically significant difference between pretest and immediate post-test scores for the written vocabulary test (meaning section) for the Affective IE group.

Hypothesis 3g: There will be no statistically significant difference between pretest and delayed post-test scores for the written vocabulary test (meaning section) for the Affective IE group.

Hypothesis 3h: There will be no statistically significant difference between immediate post-test and delayed post-test scores for the written vocabulary test (meaning section) for the Affective IE group.

Hypothesis 3i: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their immediate post-test scores for the written vocabulary test (meaning section).

Hypothesis 3j: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their delayed post-test scores for the written vocabulary test (meaning section).

Hypothesis 3 was formulated to answer RQ 3, which explores the effects of Affective IE on the learning of the form of L2 vocabulary (Hypotheses 3a, 3b, 3c. 3d, and 3e) and the meaning of L2 vocabulary (Hypotheses 3f, 3g, 3h, 3i, and 3j), as measured by a written vocabulary test.

Hypothesis 4a: There will be no statistically significant difference between the pretest and immediate post-test scores for the written grammar test (the OPREP relative clause) for the Affective IE group.

Hypothesis 4b: There will be no statistically significant difference between the pretest and delayed post-test scores for the written grammar test (the OPREP relative clause) for the Affective IE group.

Hypothesis 4c: There will be no statistically significant difference between the immediate post-test and delayed post-test scores for the written grammar test (the OPREP relative clause) for the Affective IE group.

Hypothesis 4d: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their immediate post-test scores for the written vocabulary test (the OPREP relative clause).

Hypothesis 4e: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their delayed post-test scores for the written vocabulary test (the OPREP relative clause).

Hypothesis 4f: There will be no statistically significant difference between the pretest and immediate post-test scores for the written grammar test (the present hypothetical conditional) for the Affective IE group.

Hypothesis 4g: There will be no statistically significant difference between the pretest and delayed post-test scores for the written grammar test (the present hypothetical conditional) for the Affective IE group.

Hypothesis 4g: There will be no statistically significant difference between the immediate post-test and delayed post-test scores for the written grammar test (the present hypothetical conditional) for the Affective IE group.

Hypothesis 4i: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their immediate post-test scores for the written vocabulary test (the present hypothetical conditional).

Hypothesis 4i: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their delayed post-test scores for the written vocabulary test (the present hypothetical conditional).

Hypothesis 4 was formulated to answer RQ 4, which explores the effects of Affective IE on the learning of the OPREP relative clause (Hypotheses 4a, 4b, 4c. 4d, and 4e) and the learning of the present hypothetical conditional (Hypotheses 4f, 4g, 4h, 4i, and 4j), as measured by a written grammar test.

Hypothesis 5a: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their scores for the oral grammar test (the OPREP relative clause).

Hypothesis 5b: There will be no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their scores for the oral grammar test (the present hypothetical conditional).

Hypothesis 5 is related to RQ 5, which explores the effects of Affective IE on the learning of the OPREP relative clause (Hypotheses 5a) and the learning of the present hypothetical conditional (Hypotheses 5b), as measured by an oral grammar test.

The Pilot Study

Oyama (in preparation) addressed some of the RQs stated above (i.e., RQs 1, 2, and 3) and compared the effects of Affective IE and Conceptual IE on L2 learners' evaluation of the text topic, text comprehension, and their learning of English nouns and verbs (i.e., L2 vocabulary). The participants in the pilot study were 83 second-year university students (N_{male} = 75; N_{female} = 8) from two classes in a university in Japan. Their scores for the TOEIC Bridge® test ranged from 110 to 129 (maximum possible score is 180). One of the two classes was assigned to the Affective IE group as the experimental group (n = 40) and the other class was assigned to the Conceptual IE group as the contrast group (n = 43).

The participants in the Affective IE group read a text to answer comprehension check questions after receiving the teacher's instruction that was designed to enhance the participants' positive affect regarding the text topic (e.g., realizing personal connections to the topic and increasing interest in the topic) as a pre-reading activity. The participants in the Conceptual IE group worked on the same reading activity as their counterparts after engaging in a vocabulary checking activity (i.e., checking the form and meaning of some target words) as a pre-reading activity. The target linguistic forms were 12 verbs and nine noun phrases used in the text, which were assumed not to have already been acquired by the participants in the study (e.g., "anorexia nervosa," "dietary habits," "eating disorder," "industry," "nourishment," "obesity," "physique," "shape," and "strength" as noun phrases; and "conform," "contribute," "result," "curb," "highlight," "improve," "maintain," "prevent," "promote," "represent," "provide," and "allow" as verbs).

The outcomes of the two types of instruction were tested by multiple testing measures: a questionnaire for affective evaluation of the text's topic (i.e., Likert-scale items and a free-response item), text comprehension tests (i.e., multiple-choice questions and a free-recall task), and language tests (i.e., noun and verb tests). The research design of the pilot study was

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pretest/post-test design. In the first week, the pretests (i.e., the noun and verb tests) were implemented. In the second week, the instructional treatments (i.e., the pre-reading activities and the reading activity) and the immediate post-test measures (i.e., the questionnaire, the text comprehension test, the noun test, and the verbs test) were conducted. The delayed post-tests (i.e., the noun and verb tests) were conducted 4 weeks after the immediate post-tests. The independent variables were groups (i.e., the Affective IE and Conceptual IE groups) and the dependent variables were tests (i.e., the pretest, immediate post-test, and delayed post-test).

The results are summarized as follows: (1) the questionnaire results indicated that the Affective IE group reacted to the text topic more positively than the Conceptual IE group did, as measured by a free-response question, but the results of the Likert-scale questions did not show any significant differences; (2) the results of the free-recall task as a text comprehension test showed that the Affective IE group outperformed the Conceptual IE group, but the results of the multiple-choice questions did not indicate any significant differences; (3) the verb test results revealed that both Affective IE and Conceptual IE were effective in facilitating the learning of the form, meaning, and argument structure of the target verbs; (4) the noun test results indicated that, while the Conceptual IE group outperformed the Affective IE group in the scores for the meaning section, both Affective IE and Conceptual IE were effective in facilitating the learning of the form of the target noun phrases.

Although the instructional focus of the Affective IE group was not placed on the linguistic items, it turned out to be effective in the learning of nouns and verbs to a statistically significant degree. Moreover, there was no significant difference between the two groups in terms of the learning of the form, meaning, and grammar of the target verbs and the form of the target nouns. The findings of the pilot study suggest that Affective IE had a positive impact not only on the affective evaluation of the text topic and text comprehension but also on the learning of the linguistic items in the text. For a better understanding of the effects of Affective IE on the

participants' evaluation of the text topic, the timing of the questionnaire should be different. More specifically, the questionnaire should be implemented immediately after the pre-reading activity and before the reading activity. The questionnaire in the pilot study was implemented after the reading activity; thus, the participants' responses to the questionnaire items might have been influenced not only by the pre-reading activity but also by the reading activity. In addition, the pilot study did not investigate the effects of Affective IE on the learning of grammatical forms and the development of productive skills in the use of grammatical forms (i.e., RQs 4 and 5). Therefore, the present study addresses all the RQs stated above in a refined research design.

Participants

The participants in this study were 86 Japanese first-year university students (N_{male} = 50; N_{female} = 36) enrolled in three classes in a Japanese university. The data obtained from those who gave their consent to take part in the study were analyzed (the informed consent form is shown in Appendix A). All the instructional treatments and tests used in this study were incorporated into these classes, which had the aim of advancing the participants' English proficiency. All participants spoke Japanese as their L1. Their proficiency levels measured by English Proficiency Test 2019 (NHK Publishing, 2019) indicated level B1 on the CEFR, as shown in Table 5 below. The proficiency test was administered during class time. The participants wrote their scores on a proficiency test result form (Appendix B) and submitted it to the researcher. The result of one-way repeated measures of analysis of variance (ANOVA) indicated that there was no statistically significant difference between the three groups' proficiency levels: $F(2, 80)$ = 0.15, p = 0.87, partial η^2 = 0.00. One of the three classes was assigned to the Affective IE group (Affective IE, n = 28), another class was assigned to the Perceptual IE group (Perceptual IE, n = 29), and the other was assigned to the Conceptual IE group (Conceptual IE, n = 29). The groups were not told the target of instruction in advance.

Table 5.

The Proficiency Levels of the Participants (N = 86)

Group	*M* (*SD*)	CI [*LL, UL*]	CEFR
Affective IE (*n* = 28)	67.78 (16.72)	[61.47, 74.41]	B1
Perceptual IE (*n* = 29)	65.52 (16.17)	[61.33, 72.75]	B1
Conceptual IE (*n* = 29)	67.04 (15.14)	[59.63, 71.41]	B1

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95% confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.

Teaching Materials

The teaching material used in the present study was an English text (See Appendix C). The text was a concise summary of a book, *The Culture Map* (Meyer, 2014). The topic of the book is cross-cultural communications in business situations. The researcher wrote the 402-word text, which consisted of four paragraphs. The summary described how cultural differences impact international communications and it showed that recognizing cultural diversity in the world will help to avoid unnecessary misunderstandings with international business partners, leading to more effective business communication.

Target Linguistic Items

One of the target linguistic features was English vocabulary words, including nouns, verbs, adjectives, and adverbs (See Table 6). The words were taken from the text because they were assumed to have not yet been fully acquired. Following the multiple-dimension approach to L2 vocabulary acquisition, as reviewed in an earlier chapter, the present study examined the two aspects of vocabulary knowledge: form and meaning.

Table 6.

Target Vocabulary Words

Noun	Verb	Adjective	Adverb
conflict	claim	diverse	effectively
discomfort	convey	individual	implicitly
likelihood	represent	primary	literally
spectrum	vary	conventional*	deliberately*
competition*	maintain*		
organization*	suggest*		

Notes. * indicates distractor items.

The other target linguistic features were English grammatical forms: the OPREP relative clause (e.g., "I found the building in which my father worked.") and the present hypothetical conditional (e.g., "If my brother were a vet, he could save our dog's life."). Five sentences with the OPREP relative clause and two sentences with the present hypothetical conditional were used in the text. As mentioned earlier, these grammatical forms are assumed to be worth teaching because the English relative clause and the English conditional are ranked at B2 and B1 levels in the CEFR, respectively (British Council, 2015). In other words, they are placed above or just at the participants' current level (i.e., CEFR B1 level). As evidenced in Tables 25 and 28 in the results section, the participants had not fully acquired the grammatical forms.

Instructional Treatments

This section covers the teaching procedures for the instructional treatments. All the participants in the three groups took part in a 50-minute instructional session, which included one of the three types of input enhancement as a pre-reading activity (Instruction 1), the reading

activities (Instruction 2), and follow-up teaching after the data collection was completed

(Follow-up Instruction). Table 7 shows a summary of the teaching procedure. All the treatments

were conducted using Microsoft® PowerPoint.

Table 7.

Summary of the Teaching Procedure

	Affective IE Group (*n* = 28)	Perceptual IE Group (*n* = 29)	Conceptual IE Group (*n* = 29)
Instruction 1	Pre-reading Activities (20 minutes) Oral Introduction	Pre-reading Activities (20 minutes) Textual Enhancement	Pre-reading Activities (20 minutes) Explicit Instruction
Instruction 2	Reading Activities (30 minutes) (1) Slash reading (3 minutes) (2) Fact-finding questions (15 minutes) (3) Inferential questions (5 minutes) (4) Evaluative question (7 minutes)		
	Delayed post-test after a three-week interval		
Follow-up Instruction	(1) Answers to the written vocabulary and grammar tests (2) Explicit instruction about the two grammatical forms (3) Error correction practice for the two grammatical forms		

Affective IE (Oral introduction). In the present study, the researcher employed a teaching technique called *oral introduction* as a way to implement Affective IE. It is common practice in Japan for the teacher to give a spoken introduction to the target grammatical form, the vocabulary words, or the topic of a lesson. An oral introduction often involves interactions between the teacher and students. According to Muranoi (2006), an effective oral introduction will enable teachers to activate students' background knowledge and increase their motivation to read the text or learn about the language or the topic by encouraging them to form a personal connection with the topic or language. The purpose of the oral introduction, the Affective IE, in the present study was to guide the participants to assign a more positive value to the text topic (i.e., cross-cultural communication) in relation to their concepts of SELF by encouraging them to find a personal connection to the topic (e.g., their own interest, daily life, future careers, and cultural backgrounds, goals, needs, purposes, and social/self-images).

In the introduction, aspects related to the topic, but not the content of the text, were orally introduced to the participants in the Affective IE group, using nine words (i.e., "conflict," "discomfort," "diverse," "effectively," "individual," "likelihood," "literally," "primary," and "vary") from the 14 target words (See Table 6) and the target grammatical forms. However, the instructional focus was not on the linguistic items, but on the topic of the text. The introduction was designed to direct the participants' attention to the potential personal connection between cross-cultural communication and their lives to let them know the importance of cross-cultural communication in their lives. During the introduction, a PowerPoint presentation showed visual aids, such as pictures and videos. The slides used in the introduction are shown in Appendix D.

The introduction was carried out using the following procedures:

1. While showing pictures of members of the Japanese national rugby team, tell the participants that the rugby players have different cultural backgrounds and that Japanese society might also become more international in the near future.

2. Show the participants a video in which a Japanese university student with fluent English was interviewing foreign people about the positive and negative aspects of Japan and its culture. In the video, one of the interviewees said that everything was well-organized in Japan. Another person said that Japanese people were sometimes too polite and there were too many rules in Japanese society. The participants understand that there are different ways of seeing Japanese culture.

3. Introduce the topic (i.e., cross-cultural communication) to the participants and tell them that we all have diverse cultural backgrounds, ways of thinking, values, histories, personalities, so we all are different and, therefore, every day we are surrounded by opportunities for cross-cultural communication. Point out that this awareness is crucial for good relationships with others.

4. Explain the reason for the choice of the topic. This was primarily because the number of foreign workers is increasing in Japan, and these workers could be the participants' neighbors or colleagues in the future.

5. Show two short videos about foreign workers in Japan. One of them features a foreign worker from Vietnam with a good working relationship with Japanese and other foreign co-workers. The other is about a foreign worker from Brazil. His Japanese boss talks about different attitudes to timekeeping among Japanese and Brazilian workers.

6. Explain that the number of foreign workers in Japan has been increasing since 2012. Provide relevant figures.

7. Provide the participants with some examples of foreigners' likely misunderstanding of Japanese culture regarding modesty and humility. Have them suggest possible negative reactions to Japanese modesty. Tell them that these misunderstandings may arise from cultural rather than individual differences (e.g., personality).

8. Tell them that they will face misunderstandings or conflicts in international

communication in the future and that knowing about cross-cultural communication is

key to good relationships with foreign people. Finally, the instructor (i.e., the researcher)

adds that this is the case when they make friends even with Japanese people because we

all have diverse cultures.

By talking about Japanese culture, the participants' potential future colleagues, and daily

communication with their friends and families within the context of cross-cultural

communication, the instructor intended to guide them to connect the topic to their self-image,

future careers, and lives. These topics all relate to the concept of SELF, which has a strong

association with affective representations in the MOGUL framework. This instruction lasted for

20 minutes.

In terms of the relative explicitness of instruction, Affective IE used in the present study

can be categorized as having low explicitness, or being implicit (See Table 8). Explicitness of

instruction is not a dependent variable in the present study. However, this is one of the notable

characteristics of the different types of input enhancement techniques in this study. According to

Norris and Ortega's (2000) definition, as reviewed above, explicit instruction includes rule

explanation or instruction to direct the learners' attention to a particular form. In contrast,

implicit instruction does not employ them. Neither of the three types of instruction in the present

study employed rule explanation, but one of them (i.e., Conceptual IE) included an intervention

that required the participants to use explicit information on word meanings and grammatical

forms, and two of them (i.e., Conceptual IE and Perceptual IE) included an intervention to direct

the learners' attention to linguistic forms explicitly. However, the Affective IE did not include

any of these interventions. This is why it is regarded as having relatively low explicitness or

being implicit instruction. The instructional treatment related to the target words and

grammatical forms was their use in the instructor's oral introduction.

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Perceptual IE (Textual input enhancement). In the present study, Perceptual IE was implemented by textual input enhancement involving underlining the target words and highlighting the target grammatical forms. The purpose of the instructional treatment was to direct the participants' attention to the target words and grammatical forms with the aim of increasing the likelihood of the words and forms being noticed and processed.

First, the instructor (i.e., the researcher) explained the learning strategies and asked the participants a question about the learning strategies they use when they learn important words or grammatical forms while reading a text. The participants discussed this in pairs. Then, they shared their ideas with the class. After that, the instructor projected a typographically enhanced text on the screen and the participants copied the enhancements in their own copy of the text. Nine words of the 14 target words, the same nine words used in Affective IE, were underlined and the participants themselves highlighted the target grammatical forms. The slides used in the introduction are shown in Appendix E. This instruction lasted for 20 minutes.

Where the relative explicitness of instruction is concerned, Perceptual IE used in the present study can be categorized as having medium explicitness or being less explicit instruction (See Table 8). Perceptual IE in the study explicitly directed participants' attention to the target forms, but it did not include an instruction to activate their explicit knowledge.

Conceptual IE (Explicit instruction). Explicit instruction in the form of meaning-based practice for vocabulary words and form-focused practice for grammatical forms was used to implement Conceptual IE for the present study. Conceptual IE in the study aimed to activate the participants' explicit knowledge of the linguistic items, which was assumed would help them comprehend the message of the text.

This instructional treatment was two-fold. First, the participants were required to fill in the blanks to complete the sentences by choosing an appropriate word from a box. To answer correctly, they needed to infer the meanings of the words in the box and understand the

sentences as a contextual cue for where each word should be used. Nine words from the 14 target words, the same words as used in Affective IE and Perceptual IE, were used for the practice. The answers were given to the class. Second, the participants were instructed to focus on the sentences projected on the screen and to find and correct grammatical errors. Three practice items for the OPREP relative clause and three items for the present hypothetical conditional were presented. The instructor (i.e., the researcher) gave the answers to the class. The slides used in the instructional treatment are shown in Appendix F.

In terms of the relative explicitness of instruction, Conceptual IE used in the present study can be categorized as highly explicit, or more explicit instruction (See Table 8). Conceptual IE in the study explicitly directed the attention of participants to the target forms, and it included practice to activate their explicit knowledge of word meanings and grammatical forms.

Table 8.

Relative Explicitness of Instruction in terms of Attention and Knowledge

	Affective IE	Perceptual IE	Conceptual IE
Attention	N/A	Explicit	Explicit
Knowledge	N/A	N/A	Explicit
Overall Explicitness	Low (Implicit)	Medium (Less Explicit)	High (More Explicit)

Reading activity. As shown in Table 7 above, all the groups (i.e., the Affective IE, Perceptual IE, and Conceptual IE groups) engaged in the same reading activities. The purpose of the activities was to help the participants to learn the content and the language in the text by reading it several times from different angles. The activities were designed based on a model of foreign language reading proposed by Tanaka, Shimada, and Kondo (2011) to guide the participants gradually from low-level understanding to a deeper understanding of the text.

According to Tanaka et al. (2011), inferential questions, which encourage learners to think of what is not written in the text, and evaluative questions, which lead learners to express their own ideas or attitudes toward the text contents, can facilitate a deeper understanding of the text than fact-finding questions, which ask learners to find information written in the text. In other words, if learners understand what is written in the text, it means they have reached at least a superficial level of understanding. This type of understanding can be facilitated by fact-finding questions. If learners understand, or can infer, what is not written in the text, it means they have reached a deep level of understanding. This type of understanding can be enhanced by inferential questions. Moreover, if learners have, and can express, their own ideas or attitudes toward the text contents, it means they have reached a deeper level of understanding of the text. This type of understanding can be elicited by evaluative questions.

The reading activities comprised four activities. First, the participants read as much of the text as possible in 3 minutes while putting slash marks between phrases to help their reading (Slash reading). Second, the participants read the same text to answer eight true/false questions (Fact-finding question). Each of the four paragraphs had two questions. To answer correctly, they needed to understand each paragraph. The teacher gave the answers to the class. The participants read the text to answer an inferential question asking them to summarize in Japanese the main message of the whole text (Inferential question). The instructor (i.e., the researcher) asked some students to share their ideas and then the instructor gave a possible answer to the class. Finally, the participants answered an evaluative question, which asked them to express their ideas about the connection between the text topic (i.e., international business communication and cross-cultural communication) and their own daily lives and futures. The question was, "How do you think the topic of this text (i.e., cross-cultural communication) is related to your daily life or future." This question was intended to encourage the participants to

assign their personal meaning to the topic. All the reading activities were provided in a handout, which was distributed to the class (See Appendix G).

After receiving one of the three pre-reading activities, all the participants engaged in the same reading activities. However, the types of enhanced processing (affective, perceptual, or conceptual) in the pre-reading activities were different from each other. In other words, processing activated during the reading activities differed according to the groups. Therefore, the three groups engaged in the same text and the same reading activities, but their processing of the text was supposed to be qualitatively different. It was assumed that the different types of processing would result in different effects on text comprehension and the learning of the target forms.

Follow-up instruction. A follow-up instruction was conducted immediately after the delayed post-test of the written vocabulary and grammar tests. In the instruction, the instructor gave the participants the answers to the written vocabulary and grammar tests. In addition, the instructor provided explicit instruction about the target grammatical forms, including an explanation of how to form sentences with the grammatical forms and form-focused practice for the target forms.

Procedure

The procedure of the present study is displayed in Table 9 below. In week 1, the researcher administered pretests to test the participants' initial knowledge of the target linguistic items, using a written vocabulary test, a written grammar test, and a proficiency test (NHK Publishing, 2019). The pretests took about 40 minutes. In week 2, the researcher conducted a 50-minute instructional treatment for each group including a questionnaire on affective processing and text comprehension tests, and the researcher administered immediate post-tests (i.e., written

vocabulary and grammar tests and an oral grammar test). A three-week interval was followed by

the delayed post-tests (i.e., written vocabulary and grammar tests).

Table 9.

Procedures of the Present Study

Week	Affective IE ($n = 28$)	Perceptual IE ($n = 29$)	Conceptual IE ($n = 29$)
Week 1	Pretest (1) Written Vocabulary Test (5 minutes) (2) Written Grammar Test (20 minutes) (3) Proficiency Test (15 minutes)		
Week 2	Instruction 1: Pre-reading Activities (20 minutes)		
	Questionnaire: Affective Processing of the Text Topic (5 minutes)		
	Instruction 2: Reading Activities (30 minutes)		
	Immediate Post-test (1) Written Vocabulary Test (3 minutes) (2) Written Grammar Test (17 minutes) (3) Oral Grammar Test (10 minutes)		
Weeks 3-5	Interval (3 weeks)		
Week 6	Delayed Post-test (1) Written Vocabulary Test (3 minutes) (2) Written Grammar Test (17 minutes)		
	Follow-up Instruction (30 minutes)		

Testing Measures

In order to test the effects of instruction, the researcher developed a questionnaire on the participants' affective processing of the text topic, two types of text comprehension tests, a vocabulary test, and two types of grammar tests.

Questionnaire. The purpose of this questionnaire was to gauge the participants' affective processing regarding the text topic (i.e., cross-cultural communication). The researcher revised the questionnaire used in Oyama (in preparation). The Likert-scale questionnaire was created based on Scherer's (1984) five stimulus evaluation checks: novelty, intrinsic pleasantness, goal/need significance, coping potential, and norm/self-compatibility (See the section "Affective structure" in Chapter 4 for a more detailed explanation). The results of the ratings elicited by the five checks are assumed to reflect the participants' affective processing (i.e., whether he/she assigned a positive or negative value to the text topic) because individuals' affective states or emotions are derived from the evaluation of the input stimuli in terms of the five checks (Scherer, 1984).

The researcher used the checks following Schumann (1997), who first used Scherer's (1984) stimulus appraisal model in SLA research. The wording of some of the questionnaire items for the Affective IE group was slightly different from those for the Conceptual IE and Perceptual IE groups because the Affective IE group received instruction regarding the text topic before the questionnaire, but the other groups did not (See Appendix H for the Affective IE group; Appendix I for the contrast groups).

In the pilot study (Oyama, in preparation), the questionnaire was implemented after the pre-reading activities (i.e., input enhancement) and the reading activities. For this reason, the participants' affective processing was assumed to be positively activated by the text topic (i.e., eating disorder) regardless of the presence or absence of Affective IE. Therefore, the questionnaire used in the present study was conducted after the pre-reading activities.

The participants were asked to answer each of the questions by circling the number from 1 (i.e., very negative) to 4 (i.e., very positive). The score for the questionnaire was calculated by summing up each of the ratings for all the items. The maximum possible score was 20 and the minimum score was 5.

Text comprehension tests. The purpose of the text comprehension tests was to assess the level of the participants' comprehension of the text contents. The researcher used two types of questions as text comprehension tests: fact-finding questions (true/false questions) and an evaluative question (a free-response question) (Tanaka et al., 2011), as reviewed in the instructional treatment section. The two types of text comprehension questions used in the study (i.e., fact-finding and evaluative questions) are shown in Appendix G. If the participants answer the fact-finding questions correctly, they are likely to reach a superficial level of comprehension of the text at a minimum. If they answer the evaluative question successfully (i.e., "How do you think the text topic is related to your future and your life?"), it means they can assign personal meanings to the text topic and connect themselves to the text topic, indicating a deeper level of text comprehension. Based on this assumption, the two types of questions were used as text comprehension indices. These questions were given to the participants as a part of the reading activities. Therefore, they were incorporated into the instruction.

The scoring procedure for the fact-finding questions was straightforward: each correct answer was awarded on a score of 1 (the maximum possible score was 8). For the evaluative question, the content words associated with the question and the text topic were counted. First, the researcher picked out content words related to the topic (i.e., cross-cultural communication) and the SELF concepts (e.g., life, goal, purpose, and future) from all the participants' responses and made a list of the words (See Appendix J). Then, the researcher counted the number of words used in each of the participants' answers based on the list.

Written vocabulary test. To investigate the effects of the three types of instruction on L2 vocabulary learning, the researcher developed a written vocabulary test based on the assumption that vocabulary knowledge consists of multiple dimensions, such as form, grammar, and meaning (Nation, 2001; van Zeeland & Schmitt, 2013). The vocabulary test created for the present study included 20 items: six nouns (two distractors), four adjectives (one distractor), four adverbs (one distractor), and six verbs (two distractors), as shown in Table 6. This vocabulary test was designed to measure two dimensions of English vocabulary words: form and meaning (See Appendix K). The grammatical dimension, which represents the ability to identify the category of words (e.g., Pellicer-Sánchez & Schmitt, 2010; Pigada & Schmitt, 2006; van Zeeland & Schmitt, 2013), was not included. This was because some of the nouns, adjectives, and adverbs had the typical suffixes of each category: "-tion" for nouns, "-al" for adjectives, and "-ly" for adverbs, which might help the participants to determine the correct grammatical category of the words even if they did not know their form and meaning.

In the vocabulary test, knowledge of the form of the words represents the visual memory of the spellings of the words. The participants were asked a question ("Have you ever seen this word?"), and they responded to it by circling "yes" or "no" on the test sheet. The answer "yes" was regarded as a correct answer and awarded 1 point. The participants who answered "yes" in the form section were allowed to continue to the meaning section because form knowledge of vocabulary is a prerequisite for the knowledge of meaning. It is not possible to process lexical items for meaning before there are forms onto which the meaning can be mapped.

Knowledge of the meaning of the words involves the ability to choose the correct Japanese translation for each word from one correct, three incorrect, and one "I don't know" options. The "I don't know" option was included to reduce guessing. Each correct answer was worth 1 point.

Cronbach's α was calculated on the scores for the pretest, immediate post-test, and delayed post-test of the Affective IE group to examine the reliability of the testing measures. The results

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indicated high reliability levels for the form section (α = 0.80) and the meaning section (α = 0.79). The same test was used for the pretest, immediate post-test, and delayed post-test.

Written grammar tests. The researcher administered a written grammar test to explore whether the three types of instruction were effective in facilitating the learning of L2 grammar. The researcher developed two different written grammar tests for the two target grammatical forms, that is, the OPREP relative clause and the present hypothetical conditional.

The written test for the OPREP relative clause was a sentence combination test (e.g., Doughty, 1991; Izumi, 2002), which comprised 12 test items: eight OPREP relative clauses as the target (e.g., "I found the building in which my father worked."), and two subject relative clauses (e.g., "I thanked my colleagues who helped me a lot.") and two object relative clauses (e.g., "I found the building which my mother designed.") as the distractors. In the test, the participants were asked to use a relative pronoun to combine two short sentences on a test sheet and to write the relative clause of the sentence on the sheet. For this reason, if a participant used an adverbial relative clause "where" instead of "in which," the sentence was regarded as an incorrect sentence even though it was grammatically correct. The target items included two items of "in which," two items of "to which," two items of "from which/whom," and two items of "through which." The distractors included two items of "who" for each of the subject and object relative clauses and two items of "which" for each of the subject and object relative clauses. The test items for the OPREP relative clause are shown in Appendix L.

Each correct sentence was worth 3 points (the maximum possible score was 24 points). The scoring was conducted based on the criteria in Table 10.

Table 10.

The Scoring Criteria for the OPREP Relative Clause

Description

3 points 　1.　Preposition + Relative Clause (which/who/whom) + NP$_{Subject}$ + VP …

　　　　　　(e.g., the building in which my father worked)

　　　　　2.　Relative Clause (which/who/whom) + NP$_{Subject}$ + VP + Preposition

　　　　　　(e.g., the building which my father worked in)

　　　　　3.　Relative Clause (that) + NP$_{Subject}$ + VP + Preposition

　　　　　　(e.g., the building that my father worked in)

　　　　　※ The reduced forms for Type 2 and 3 were also accepted (e.g., the

　　　　　building my father worked in).

1 point 　*Preposition + Relative Clause (that) + NP$_{Subject}$ + VP + Preposition

　　　　　(e.g., *the building in that my father worked)

0 points 　Relative Adverb + NP$_{Subject}$ + VP

　　　　　(e.g., the building where my father worked)

Note. * indicates an ungrammatical phrase.

　　　The written test of the present hypothetical conditional was a gap-filling test, which consisted of 12 test items: eight present hypothetical conditional sentences (e.g., "If my brother were a vet, he could save our dog's life.") as the target, and two past counterfactual conditionals (e.g., "If I had known Shizuka's phone number, I could have called her.") and two predictive conditionals (e.g., "If it is sunny, I will take a walk to the park.") as the distractors. The test required the participants to fill in the blanks with the appropriate forms of verb phrases in the main and the *if* clauses. The verbs to be used were provided in each item. The test items are shown in Appendix M.

Each correct form of verb phrases in the main and the *if* clauses was awarded 3 points (the maximum possible score was 48 points). The test was scored based on the criteria in Table 11.

Table 11.

The Scoring Criteria for the Present Hypothetical Conditional

	If Clause	Main Clause
3 points	Past form verb	Past form auxiliary verb + verb
1 point	Past form auxiliary verb (redundant) + verb	Past form verb (without past form auxiliary verb)
0 points	Present form verb	Present form auxiliary verb + verb

Cronbach's α was calculated on the scores of the pretest, immediate post-test, and delayed post-test for the Affective IE group to examine the reliability of the testing measures. The results indicated high reliability levels for the OPREP relative clause ($\alpha = 0.81$) and the present hypothetical conditional ($\alpha = 0.89$). The same test was used for the pretest, immediate post-test, and delayed post-test.

Oral grammar test. The researcher created an oral grammar test in the form of a summary completion activity. The purpose of this test was to determine if the participants' oral performance in the use of the target grammatical forms differed according to the types of instruction they received. The participants were required to fill in the blanks in a summary of the text they had read in the instructional session and to read the summary aloud. They recorded the performances on their own devices (e.g., PC or smartphone) and uploaded them to a shared online folder.

This oral grammar test was only administered once after the reading of the text because it was not possible to pretest it. The test used a summary of the reading material in the instructional

session. This meant that reading the text was a prerequisite of the test. Therefore, there was no pretest for this oral grammar test.

The test included eight blanks. Four blanks targeted the OPREP relative clause. The participants had to fill the blanks with appropriate prepositions, such as three instances of "in" and one of "to" directly before the relative pronoun "which" (e.g., "… cultures *to* which our business partners belong"). The other four blanks targeted the present hypothetical conditional. The participants were asked to fill the blanks with the correct forms of verbs or auxiliary verbs (e.g., "If you *did* not succeed in it in the meeting, you *could* be a KY person."). The summary and test items are provided in Appendix N.

In the test, the participants were required to read aloud, sentence by sentence, eight sentences of the summary presented on a screen. All the sentences were accompanied by their Japanese translations. Out of the eight sentences, two had the OPREP relative clause, and the other two sentences had the present hypothetical conditional. First, as preparation, the participants were given 20 seconds to read the Japanese and English sentences with blanks. Then, they read the sentences aloud while filling the blanks within another 20 seconds. They had a practice run before the test. Figure 5 below shows the procedure for the oral grammar test.

Cronbach's α was calculated on the scores of the Affective IE group to examine the reliability of the testing measures. The results indicated medium reliability levels for the oral grammar test ($\alpha = 0.61$). The same test was used for the pretest, immediate post-test, and delayed post-test.

Reading Aloud 8

20秒以内に音読してください

★8 国際的なコミュニケーションにおいて不要な誤解を避けるために、私たちは個人の性格だけではなく、ビジネスパートナーが属している文化にも注意を向けるべきだ。

To avoid unnecessary ...standings in international ...ation, we should pay ...ot only to personality, but _____ which our ...artners belong.

Reading Aloud 2

20秒以内に音読してください

2

このような状況下で人々は、ビジネスの中で多くの対立や誤解を経験しているだ

...kers can ...of conflicts and ...daily business

Preparation 2

20秒で音読の準備をしてください

2

このような状況下で人々は、ビジネスの中で多くの対立や誤解を経験しているだ

...kers can ...of conflicts and ...daily business

Reading Aloud 1

20秒以内に音読してください

★1

今日では多くの人々が、異なる国から来た人や異なる文化的背景を持つ人が協働している。

...e working in _____ which ...countries and ...work together.

Preparation 1

20秒で音読の準備をしてください

★1

今日では多くの人々が、異なる国から来た人や異なる文化的背景を持つ人が協働している国際的な状況で働いている。

Many people today are working in global settings _____ which people from different countries and cultural backgrounds work together.

20 seconds

20 seconds

20 seconds

Figure 5. The procedure of the oral grammar test

The two target forms were scored separately. The four OPREP relative clause items were scored based on the criteria in Table 12. The correct preposition was worth 3 points. The four present hypothetical conditional items were scored according to the criteria in Table 13. The correct forms of verbs or auxiliary verbs were awarded 3 points. The maximum possible score for each of the grammatical forms was 12 points.

Table 12.

The Scoring Criteria for the OPREP Relative Clause

3 points	Correct Preposition
1 point	Wrong Preposition
0 points	No preposition

Table 13.

The Scoring Criteria for the Present Hypothetical Conditional

	If Clause	Main Clause
3 points	Correct past form verb/ auxiliary verb + verb	Correct past form auxiliary verb + verb
1 point	Redundant past form auxiliary verb + verb	Past form verb
0 points	Present form verb/ auxiliary verb	Present form verb/auxiliary verb

Data Analysis

The data obtained were analyzed statistically using IBM SPSS® Statistics 26. Before the analyses, the data for those who were absent from the pretests or the delayed post-tests were substituted by the average score for each testing measure. To answer RQs 1, 2, and 5, one-way repeated measures of ANOVA were conducted on the scores for the questionnaire, the two types of text comprehension tests, and the oral grammar test for the Affective IE, Conceptual IE, and Perceptual IE groups. Three (i.e., the Affective IE, Conceptual IE, and Perceptual IE groups) × three (i.e., the pretest, immediate post-test, and delayed post-test) two-way repeated measures ANOVA were carried out on the scores for the written vocabulary test and the written grammar test. Based on the results of the ANOVAs, to answer RQs 3 and 4, post hoc multiple comparisons with a Bonferroni adjustment were performed to determine which group or test was significantly better than the others. Cohen's effect size (*d*) was also calculated to confirm the practical differences in the scores between groups and between tests. Because the results of Cohen's *d* are not influenced by sample size, they can support the results of t-tests and ANOVAs.

Chapter 8: Results

Introduction

This chapter reports the results of this quasi-experimental study exploring the effects of Affective IE on L2 development. The chapter covers the statistical analyses of the scores for the questionnaire, the text comprehension tests, the written vocabulary test, the written grammar test, and the oral grammar test.

The Results of Affective Processing Measured by the Questionnaire

Table 14 displays the descriptive statistics for the results of affective processing measured by the questionnaire. The maximum possible score was 4 for each of the six items and 24 points in total. The minimum possible score was 1 for each item and 5 points in total. Means (*M*), standard deviations (*SD*), and confidence intervals (CI) are shown in the table. Figure 6 shows the *M* and CI of all the groups.

Table 14.

Descriptive Statistics for the Affective Processing of the Text Topic (N = 86)

Group		M (SD)	CI [LL, UL]
Affective IE (n = 28)	Novelty	3.64 (0.48)	[3.47, 3.82]
	Pleasantness	4.00 (0.00)	[4.00, 4.00]
	Goal/Need Significance	3.86 (0.44)	[3.69, 4.02]
	Coping Potential	3.15 (0.59)	[2.93, 3.37]
	Self-Compatibility	3.81 (0.39)	[3.69, 3.96]
	Norm Compatibility	3.89 (0.31)	[3.77, 4.01]
	Total	22.36 (1.47)	[21.82, 22.90]
Perceptual IE (n = 29)	Novelty	3.31 (0.65)	[3.07, 3.55]
	Pleasantness	3.00 (0.64)	[2.77, 3.23]
	Goal/Need Significance	3.69 (0.46)	[3.52, 3.86]
	Coping Potential	2.72 (0.64)	[2.49, 2.96]
	Self-Compatibility	3.24 (0.82)	[2.94, 3.54]
	Norm Compatibility	3.31 (0.75)	[3.04, 3.58]
	Total	19.31 (2.02)	[18.57, 20.05]
Conceptual IE (n = 29)	Novelty	3.28 (0.64)	[3.04, 2.51]
	Pleasantness	3.03 (0.72)	[2.77, 3.30]
	Goal/Need Significance	3.66 (0.66)	[3.42, 3.89]
	Coping Potential	2.45 (0.67)	[2.20, 2.69]
	Self-Compatibility	3.28 (0.58)	[3.06, 3.49]
	Norm Compatibility	3.55 (0.62)	[3.33, 3.78]
	Total	18.72 (2.91)	[17.66, 19.78]

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95% confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.
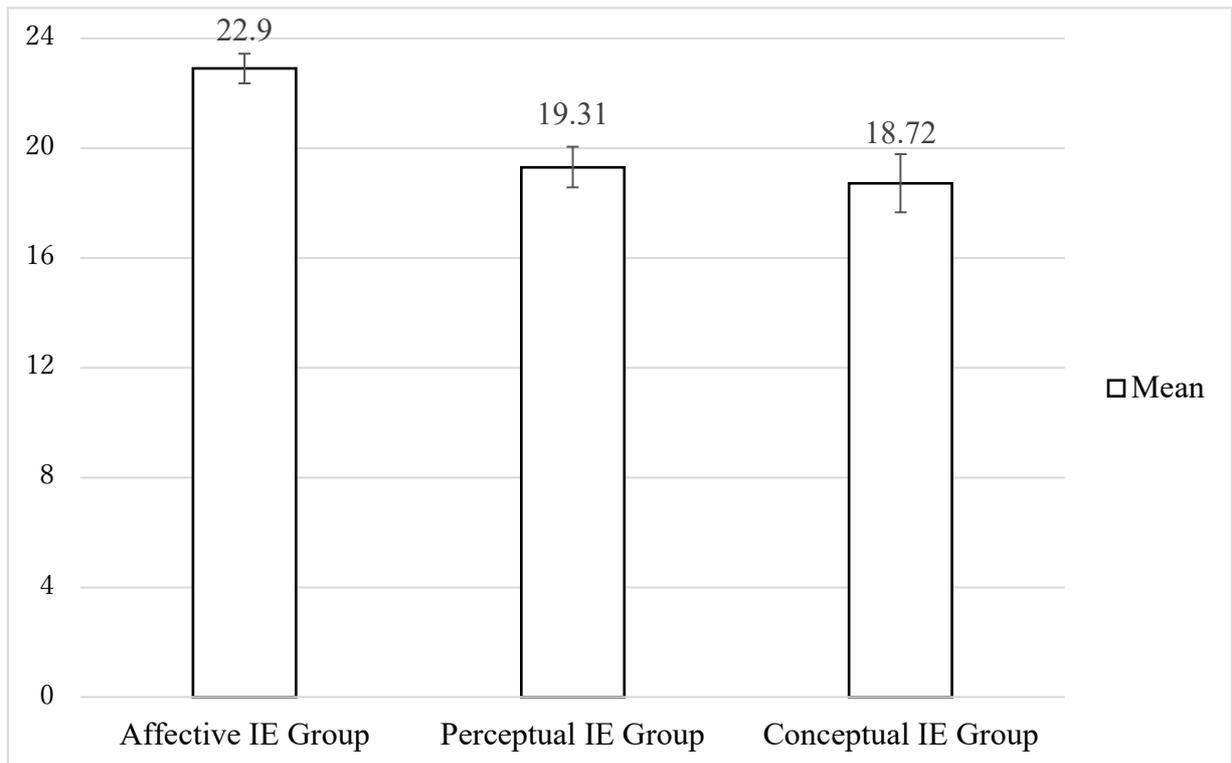
Figure 6. The mean scores for the affective processing of the text topic.

To examine the effects of instruction on the participants' affective reaction to the topic of the text (i.e., cross-cultural communication) among the three groups, a non-parametric testing method, the Kruskal-Wallis test by ranks, was conducted. The independent variable was Group (i.e., Affective IE, Perceptual IE, and Conceptual IE groups), and the dependent variable was Reaction (i.e., the total score of reactions for the questionnaire items). A one-way ANOVA could not be used because Levene's test for equality of variances rejected the null hypothesis that the population variances would be equal, $F(2, 83) = 5.35$, $p = 0.01$. The results of the Kruskal-Wallis test indicated a significant main effect for the group, $H(2) = 34.35$, $p = .00$. Table 15 shows the results of a between-group comparison of the three groups.

Table 15.

Between-group Comparisons for the Affective Processing of the Text Topic

Between-group Comparisons			*d*
Affective IE (22.90)	>	Perceptual IE (19.31) **	1.73
Affective IE (22.90)	>	Conceptual IE (18.72) **	1.58
Perceptual IE (19.31)	=	Conceptual IE (18.72) *ns*	0.24

Notes. *d* indicates Cohen's effect size; A = B indicates no significant

difference between A and B; **p < .01.

Table 15 shows that (1) the Affective IE group evaluated the topic of the text more

positively than the Perceptual IE and Conceptual IE groups in terms of Scherer's five checks,

and this was supported by large effect sizes (greater than 0.80), and (2) there was no statistically

significant difference between the Perceptual IE and Conceptual IE groups, indicating a small

effect size (around 0.20). A stronger effect of Affective IE was found in the results of the

questionnaire measuring participants' affective processing.

The summary of the results of the multiple comparisons between groups (Table 15) is as

follows:

- The Affective IE group outperformed the Perceptual IE and Conceptual IE groups.

- No significant differences were found between the Perceptual IE and Conceptual IE

  groups.

Text Comprehension Tests Results

Table 16 displays the descriptive statistics for the text comprehension test scores :

multiple-choice questions (i.e., fact-finding questions) and a free-response question (i.e., an

evaluative question). The maximum possible score was 8 for the multiple-choice questions. The

free-response item did not specify a minimum or a maximum number of comments. Figure 7

shows the *M* and CI of the two types of questions for all the groups.

Table 16.

Descriptive Statistics for the Text Comprehension Tests (N = 86)

Group	Test	*M* (*SD*)	CI [*LL, UL*]
Affective IE (*n* = 28)	Multiple-choice Question	7.21 (0.96)	[6.85, 7.57]
	Free-response Question	13.86 (4.99)	[12.01, 15.71]
Perceptual IE (*n* = 29)	Multiple-choice Question	7.28 (0.88)	[6.96, 7.60]
	Free-response Question	8.24 (5.44)	[6.26, 10.22]
Conceptual IE (*n* = 29)	Multiple-choice Question	7.21 (1.05)	[6.83, 7.59]
	Free-response Question	10.21 (5.07)	[8.36, 12.06]

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95%

confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.
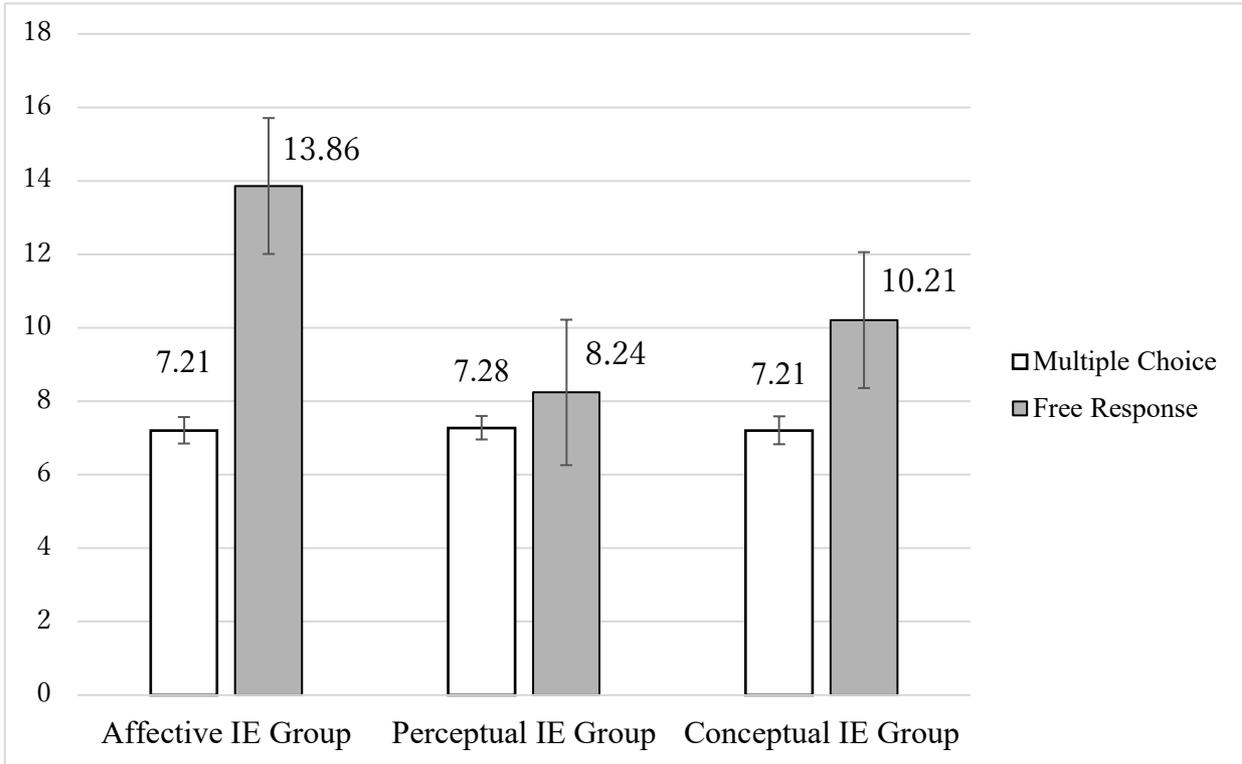

Figure 7. The mean scores for the text comprehension tests.

Multiple-choice question. The result of a one-way ANOVA conducted on the scores of the multiple-choice questions (i.e., fact-finding questions) from the Affective IE, Perceptual IE, and Conceptual IE groups indicated that there were no statistically significant differences among the three groups, $F(2, 83) = 0.04$, $p = .96$, partial $\eta^2 = .00$. Table 17 shows the results of a between-group comparison among the three groups.

Table 17.

Between-group Comparisons for the Multiple-choice Questions

Between-group Comparisons			*d*
Affective IE (7.21)	=	Perceptual IE (7.28) *ns*	0.08
Affective IE (7.21)	=	Conceptual IE (7.21) *ns*	0.00
Perceptual IE (7.28)	=	Conceptual IE (7.21) *ns*	0.07

Notes. *d* indicates Cohen's effect size; A = B indicates no significant difference between A and B.

The summary of the results of the multiple comparisons between groups (Table 17) is as follows:

- No significant differences were found among the three groups.

Free-response question. The result of a one-way ANOVA conducted on the scores for the free-response question (i.e., the evaluative question) from the Affective IE, Perceptual IE, and Conceptual IE groups found that there was a statistically significant effect for the group, $F(2, 83) = 8.63$, $p = .00$, partial $\eta^2 = .17$. Table 18 shows the results of a between-group comparison of the three groups. For the free-response question, the results show that (1) the Affective IE group outperformed the Perceptual IE and Conceptual IE groups; this was supported by large effect

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sizes (around 0.80); and (2) there were no significant differences between the Perceptual IE and

Conceptual IE groups, indicating a medium effect size (around 0.50).

Table 18.

Between-group Comparisons for the Free-response Question

Between-group Comparisons			*d*
Affective IE (13.86)	>	Perceptual IE (8.24) **	1.08
Affective IE (13.86)	>	Conceptual IE (10.21) *	0.73
Perceptual IE (8.24)	=	Conceptual IE (10.21) *ns*	0.37

Notes. *d* indicates Cohen's effect size; A = B indicates no significant

difference between A and B; *$p < .05$. **$p < .01$.

The summary of the results of the multiple comparisons between groups (Table 18) is as

follows:

- The Affective IE group outperformed the Perceptual IE and Conceptual IE groups.

- No significant differences were found between the Perceptual IE and Conceptual IE

   groups.

Written Vocabulary Test Results

This section reports the results for the form and meaning sections of the written vocabulary

test. To test the effect of instruction on L2 vocabulary learning, two-way repeated measures

ANOVAs were performed on the scores for the form and meaning sections for the three groups.

The form section. Table 19 presents the descriptive statistics for the scores for the form

section of the written vocabulary pretest (Pretest), immediate post-test (Post-test 1), and delayed

post-test (Post-test 2). The maximum possible score was 14 for the section. Figure 8 shows the *M* and CI of each test from all the groups.

Table 19.

Descriptive Statistics for the Form Section of the Written Vocabulary Test (N = 86)

Group	Test	*M (SD)*	CI [*LL, UL*]
Affective IE (*n* = 28)	Pretest	10.93 (1.94)	[10.21, 11.65]
	Post-test 1	13.43 (1.10)	[13.02, 13.84]
	Post-test 2	13.18 (1.51)	[12.62, 13.74]
Perceptual IE (*n* = 29)	Pretest	10.66 (2.32)	[9.82, 11.50]
	Post-test 1	13.86 (0.44)	[13.70, 14.02]
	Post-test 2	13.67 (0.55)	[13.46, 13.86]
Conceptual IE (*n* = 29)	Pretest	11.34 (2.22)	[10.53, 12.15]
	Post-test 1	13.48 (1.38)	[12.98, 13.98]
	Post-test 2	12.88 (2.62)	[11.93, 13.83]

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95% confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.

The results of a two-way repeated measures ANOVA indicated a significant main effect for the test, $F(2, 166) = 117.16$, $p = .00$, partial $\eta^2 = .59$; for the interaction between the test and group, $F(4, 166) = 2.89$, $p = .02$, partial $\eta^2 = .07$; and no significant main effect for the group, $F(2, 83) = 0.18$, $p = .84$, partial $\eta^2 = .00$. Simple main effects for the test were found in the Affective IE group, $F(2, 82) = 25.22$, $p = .00$, partial $\eta^2 = .38$; in the Perceptual IE group, $F(2, 82) = 44.00$, $p = .00$, partial $\eta^2 = .52$; and in the Conceptual IE group, $F(2, 82) = 18.73$, $p = .00$, partial $\eta^2 = .31$.
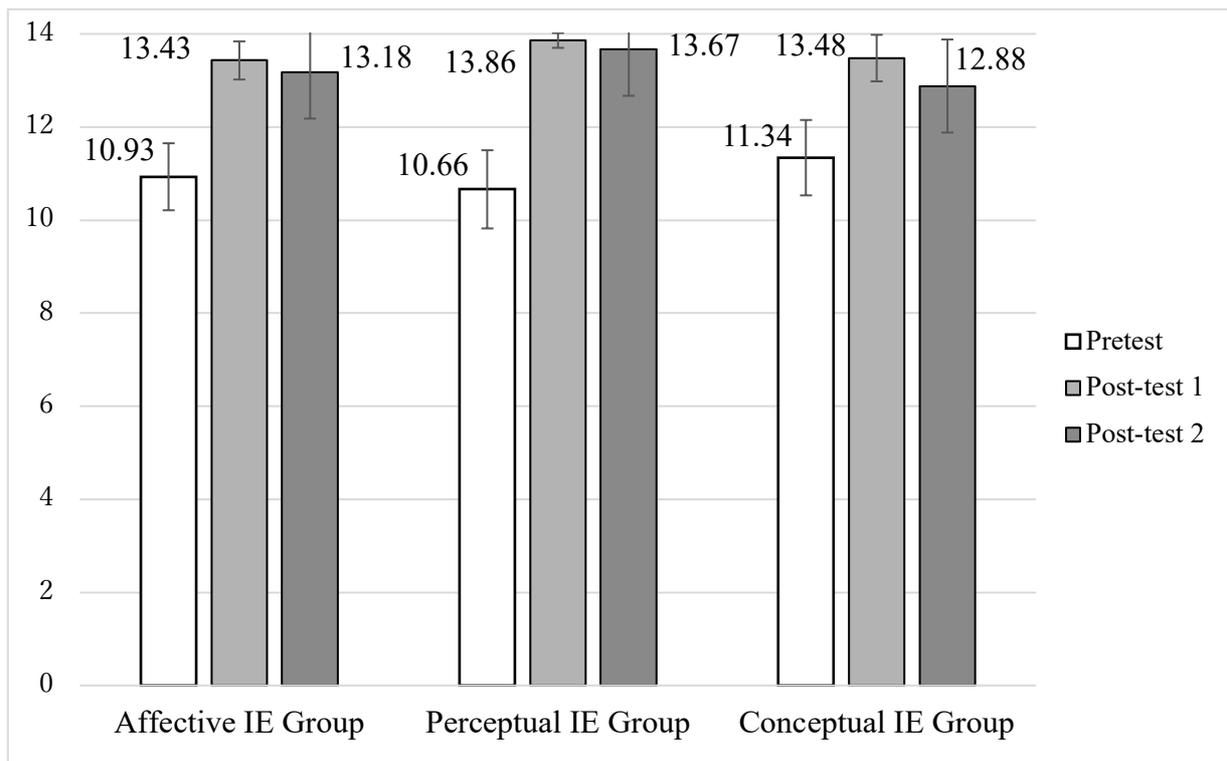
Figure 8. The mean scores of the form section of the written vocabulary test.

Between-test comparisons for each group were performed. Table 20 shows that (1) all the groups made statistically significant gains from Pretest to Post-tests 1 and 2, which was supported by medium or large effect sizes (greater than 0.50 or 0.80); (2) the Affective IE and Perceptual IE groups' performance exhibited no statistically significant differences between Post-tests 1 and 2, indicating small and medium effect sizes (less than 0.20 or 0.50); and (3) the Conceptual IE group exhibited a statistically significant decrease from Post-test 1 to Post-test 2, indicating a small effect size (around 0.20).

Table 20.

Between-test Comparisons for the Form Section of the Written Vocabulary Test

Group	Between-test Comparisons			d
Affective IE	Pretest (10.93)	<	Post-test 1 (13.43) **	1.59
	Pretest (10.93)	<	Post-test 2 (13.18) **	1.29
	Post-test 1 (13.43)	=	Post-test 2 (13.18) *ns*	0.19
Perceptual IE	Pretest (10.66)	<	Post-test 1 (13.86) **	1.92
	Pretest (10.66)	<	Post-test 2 (13.67) **	1.79
	Post-test 1 (13.86)	=	Post-test 2 (13.67) *ns*	0.38
Conceptual IE	Pretest (11.34)	<	Post-test 1 (13.48) **	1.16
	Pretest (11.34)	<	Post-test 2 (12.88) **	0.63
	Post-test 1 (13.48)	>	Post-test 2 (12.88) *	0.29

Notes. *d* indicates Cohen's effect size; A = B indicates no significant difference between A and B; *p* < .05. **p* < .01.

As shown in Table 21, the results of between-group comparisons for each test did not find any statistically significant difference between the groups for each of the three tests. Table 21 shows the effect sizes for each comparison.

Table 21.

Between-group Comparisons for the Form Section of the Written Vocabulary

Test

Test	Between-group Comparisons			d
Pretest	Affective IE (10.93)	=	Perceptual IE (10.66) *ns*	0.13
	Affective IE (10.93)	=	Conceptual IE (11.34) *ns*	0.19
	Perceptual IE (10.66)	=	Conceptual IE (11.34) *ns*	0.30
Post-test 1	Affective IE (13.43)	=	Perceptual IE (13.86) *ns*	0.51
	Affective IE (13.43)	=	Conceptual IE (13.48) *ns*	0.04
	Perceptual IE (13.86)	=	Conceptual IE (13.48) *ns*	0.37
Post-test 2	Affective IE (13.18)	=	Perceptual IE (13.67) *ns*	0.43
	Affective IE (13.18)	=	Conceptual IE (12.88) *ns*	0.14
	Perceptual IE (13.67)	=	Conceptual IE (12.88) *ns*	0.42

Notes. *d* indicates Cohen's effect size; A = B indicates no significant difference

between A and B.

The summary of the results for the multiple comparisons between tests (Table 20) and

between groups (Table 21) is as follows:

- The scores for the Affective IE group improved significantly from Pretest to Post-tests

    1 and 2, and there were no significant differences between Post-tests 1 and 2.

- The scores for the Perceptual IE group improved significantly from Pretest to Post-tests

    1 and 2, and there were no significant differences between Post-tests 1 and 2.

- The scores for the Conceptual IE group improved significantly from Pretest to Post-tests

    1 and 2, but there was a significant decrease from Post-tests 1 to Post-test 2.

- There were no significant differences among the three groups at Pretest, Post-test 1, and

Post-test 2.

The meaning section. Table 22 presents the descriptive statistics for the scores for the meaning sections of Pretest, Post-test 1, and Post-test 2. The maximum possible score was 14 for each section. Figure 9 shows the *M* and CI for the meaning section of the written vocabulary test for all the groups.

Table 22.

Descriptive Statistics of the Meaning Section of the Written Vocabulary Test (N = 86)

Group	Test	*M* (*SD*)	CI [*LL, UL*]
Affective IE (*n* = 28)	Pretest	7.39 (2.59)	[6.43, 8.35]
	Post-test 1	10.75 (1.92)	[10.04, 11.46]
	Post-test 2	10.27 (2.31)	[9.41, 11.13]
Perceptual IE (*n* = 29)	Pretest	7.17 (3.08)	[6.05, 8.29]
	Post-test 1	11.28 (2.33)	[10.43, 12.13]
	Post-test 2	10.70 (1.75)	[10.06, 11.34]
Conceptual IE (*n* = 29)	Pretest	7.29 (2.41)	[6.74, 8.50]
	Post-test 1	11.28 (2.40)	[10.41, 12.15]
	Post-test 2	10.53 (2.51)	[9.62, 11.44]

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95% confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.
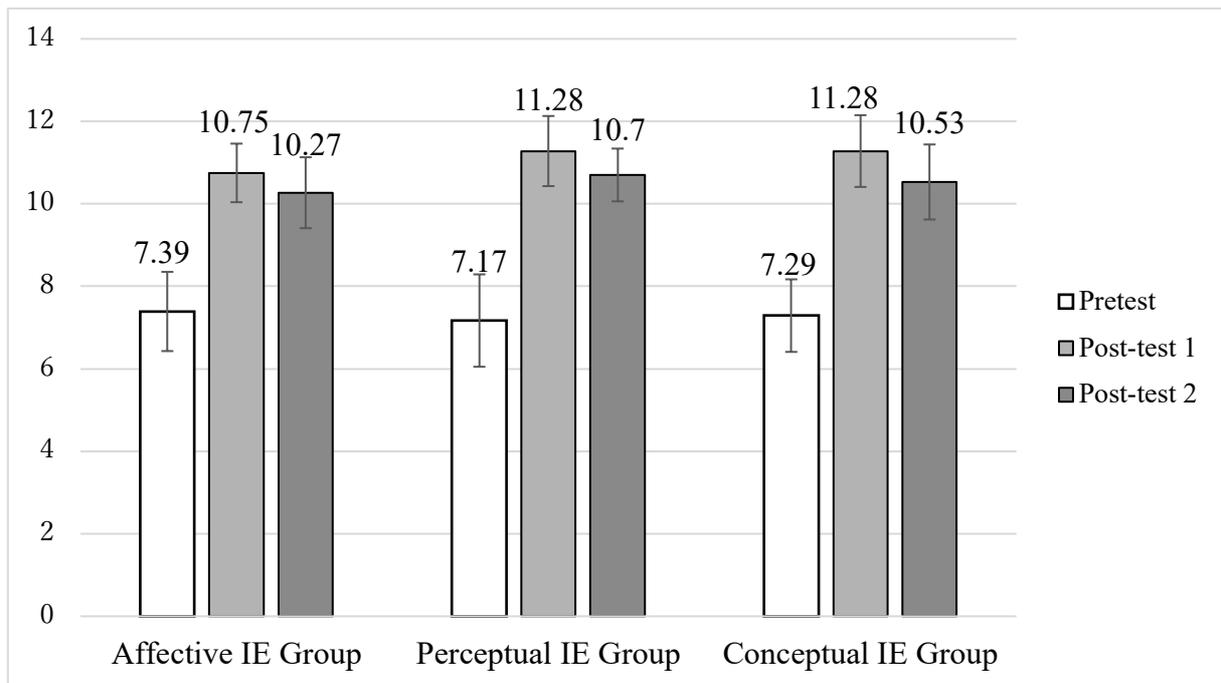
Figure 9. The mean scores of the meaning section of the written vocabulary test.

The results of a two-way repeated measures ANOVA indicated a significant main effect for the test, $F(2, 166) = 143.50$, $p = .00$, partial $\eta^2 = .63$. Main effects were not found for the group, $F(2, 83) = 0.21$, $p = .81$, partial $\eta^2 = .01$ and for the interaction between the test and group, $F(4, 166) = 0.59$, $p = .67$, partial $\eta^2 = .01$.

The researcher conducted a between-test comparison average score for the meaning section for the three groups. Table 23 shows that (1) the scores of the participants in the three groups improved statistically significantly from Pretest to Post-tests 1 and 2, supported by large effect sizes (greater than 0.80); and (2) their scores decreased statistically significantly from Post-test 1 to Post-test 2, indicating a small effect size (around 0.20).

Table 23.

Between-test Comparisons for the Meaning Section of the Written

Vocabulary Test

Between-test Comparisons			*d*
Pretest (7.40)	<	Post-test 1 (11.10) **	1.50
Pretest (7.40)	<	Post-test 2 (10.50) **	1.26
Post-test 1 (11.10)	>	Post-test 2 (10.50) *	0.27

Notes. *d* indicates Cohen's effect size; A = B indicates no

significant difference between A and B; *$p < .05$. **$p < .01$.

Table 24 shows that between-group comparisons for each test did not find any statistically significant difference between the groups for each of the three tests. Table 24 also shows effect sizes for each comparison.

Table 24.

Between-group Comparisons for the Meaning Section of the Written

Vocabulary Test

Between-group Comparisons			*d*
Affective IE (9.47)	=	Perceptual IE (9.72) *ns*	0.69
Affective IE (9.47)	=	Conceptual IE (9.81) *ns*	0.88
Perceptual IE (9.72)	=	Conceptual IE (9.81) *ns*	0.23

Notes. *d* indicates Cohen's effect size; A = B indicates no

significant difference between A and B.

There are no significant differences between Affective IE and Perceptual IE and between Affective IE and Conceptual IE at the 0.50 level of significance, but the effect sizes (Cohen's *d*) for the comparisons show larger effects for Perceptual IE and Conceptual IE than for Affective IE.

The summary of the results of the multiple comparisons between tests (Table 23) and between groups (Table 24) is as follows:

- The overall scores of the three groups improved significantly from Pretest to Post-tests 1 and 2, and there was a significant decrease from Post-test 1 to Post-test 2.

- No significant differences were found among the three groups.

Written Grammar Test Results

This section reports the results of the written grammar test on the OPREP relative clause and the present hypothetical conditional. Two-way repeated measures ANOVAs were performed on the scores for the two grammatical forms for the three groups to test the effect of instruction on L2 grammar learning.

The OPREP relative clause. Table 25 shows the descriptive statistics for the scores for the OPREP relative clause in the written grammar pretest (Pretest), immediate post-test (Post-test 1), and delayed post-test (Post-test 2). The maximum possible score was 24 points. Figure 10 shows the *M* and CI for the written grammar test taken by all groups for the OPREP relative clause.

Table 25.

Descriptive Statistics for the Written Grammar Test on the OPREP
Relative Clause (N = 86)

Group	Test	*M* (*SD*)	CI [*LL, UL*]
Affective IE (*n* = 28)	Pretest	8.93 (7.51)	[6.15, 11.71]
	Post-test 1	12.21 (7.74)	[9.34, 15.08]
	Post-test 2	16.96 (5.81)	[14.81, 19.11]
Perceptual IE (*n* = 29)	Pretest	11.79 (8.10)	[8.84, 14.74]
	Post-test 1	15.10 (8.65)	[11.95, 18.25]
	Post-test 2	14.10 (8.02)	[11.18, 17.02]
Conceptual IE (*n* = 29)	Pretest	8.38 (6.87)	[5.88, 10.88]
	Post-test 1	15.86 (7.11)	[13.27, 18.45]
	Post-test 2	16.37 (5.45)	[14.39, 18.35]

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95% confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.
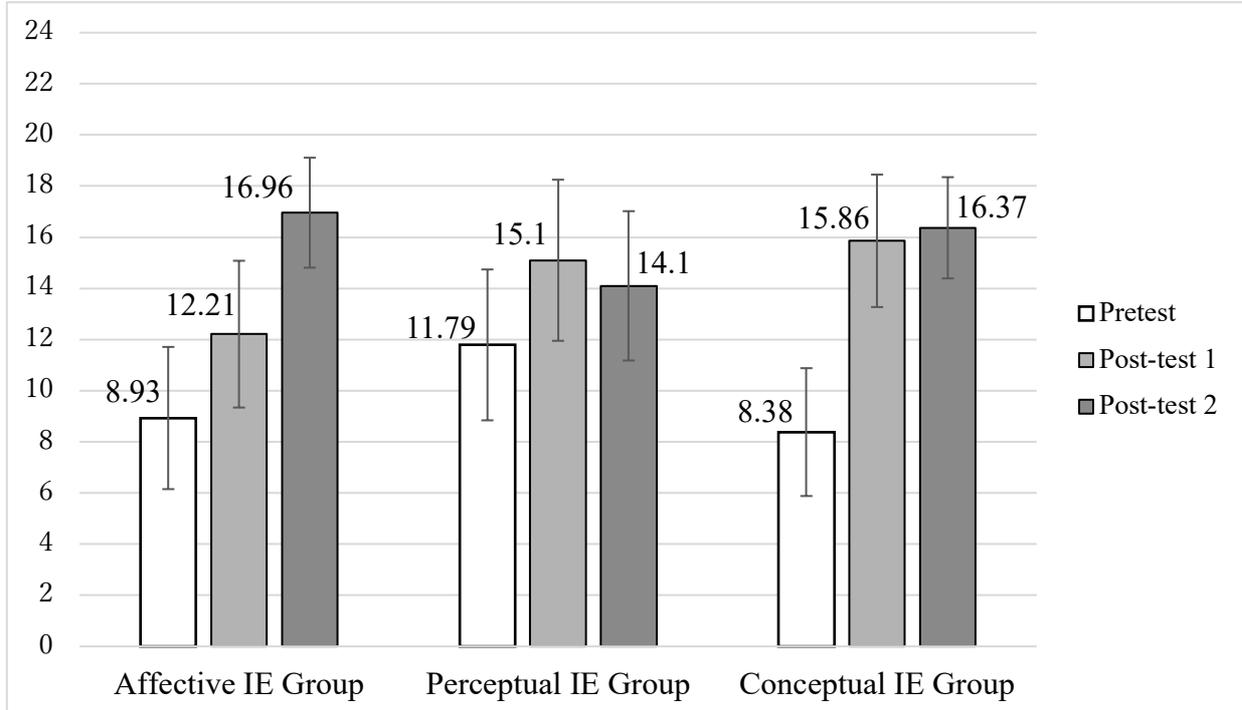

Figure 10. The mean scores for the written grammar test on the OPREP relative clause.

The results of a two-way repeated measures ANOVA indicated a significant main effect for the test, $F(2, 166) = 35.80$, $p = .00$, partial $\eta^2 = .30$; for the interaction between the test and group, $F(4, 166) = 4.98$, $p = .00$, partial $\eta^2 = .11$; but no significant main effect for the group, $F(2, 83) = 0.21$, $p = .81$, partial $\eta^2 = .01$. Simple main effects for the test were found in the Affective IE group, $F(2, 82) = 15.96$, $p = .00$, partial $\eta^2 = .28$; in the Perceptual IE group, $F(2, 82) = 3.15$, $p = .05$, partial $\eta^2 = .07$; and in the Conceptual IE group, $F(2, 82) = 18.23$, $p = .00$, partial $\eta^2 = .31$.

Between-test comparisons for each group were performed. Table 26 shows that (1) all the groups made statistically significant gains from Pretest to Post-test 1; this was supported by medium or large effect sizes (around 0.50 or 0.80); (2) the Affective IE and Conceptual IE groups made statistically significant gains from Pretest to Post-test 2, which were supported by large effect sizes (greater than 0.80); (3) the Perceptual IE group's performance exhibited no statistically significant differences between Pretest and Post-test 2, which indicated a small effect size (around 0.20); (4) the score for the Affective IE group further improved from Post-test 1 to Post-test 2, and this was supported by a large effect size (around 0.80); and (5) the performance of the Perceptual IE and Conceptual IE groups showed no statistically significant differences between Post-tests 1 and 2, indicating small effect sizes (less than 0.20).

Table 26.

Between-test Comparisons for the Written Grammar Test on the OPREP

Relative Clause

	Between-test Comparisons			*d*
Affective IE	Pretest (8.93)	<	Post-test 1 (12.21) *	0.43
	Pretest (8.93)	<	Post-test 2 (16.96) **	1.20
	Post-test 1 (12.21)	<	Post-test 2 (16.96) **	0.69
Perceptual IE	Pretest (11.79)	<	Post-test 1 (15.10) *	0.40
	Pretest (11.79)	=	Post-test 2 (14.10) *ns*	0.29
	Post-test 1 (15.10)	=	Post-test 2 (14.10) *ns*	0.12
Conceptual IE	Pretest (8.38)	<	Post-test 1 (15.86) **	1.07
	Pretest (8.38)	<	Post-test 2 (16.37) **	1.29
	Post-test 1 (15.86)	=	Post-test 2 (16.37) *ns*	0.08

Notes. *d* indicates Cohen's effect size; A = B indicates no significant difference

between A and B; *p* < .05. **p* < .01.

Table 27 shows that between-group comparisons for each test did not find any statistically

significant difference between the groups for each of the three tests. Table 27 also displays effect

sizes for each comparison.

Table 27.

Between-group Comparisons for the Written Grammar Test on the OPREP

Relative Clause

Test	Between-group Comparisons			*d*
Pretest	Affective IE (8.93)	=	Perceptual IE (11.79) *ns*	0.37
	Affective IE (8.93)	=	Conceptual IE (8.38) *ns*	0.08
	Perceptual IE (11.79)	=	Conceptual IE (8.38) *ns*	0.45
Post-test 1	Affective IE (12.21)	=	Perceptual IE (15.10) *ns*	0.35
	Affective IE (12.21)	=	Conceptual IE (15.86) *ns*	0.49
	Perceptual IE (15.10)	=	Conceptual IE (15.86) *ns*	0.10
Post-test 2	Affective IE (16.96)	=	Perceptual IE (14.10) *ns*	0.41
	Affective IE (16.96)	=	Conceptual IE (16.37) *ns*	0.10
	Perceptual IE (14.10)	=	Conceptual IE (16.37) *ns*	0.33

Notes. *d* indicates Cohen's effect size; A = B indicates no significant difference between A and B.

The summary of the results for the multiple comparisons between tests (Table 26) and between groups (Table 26) is as follows:

- The scores for the Affective IE group improved significantly from Pretest to Post-tests 1 and 2 and improved from Post-test 1 to Post-test 2.

- The scores for the Perceptual IE group improved significantly from Pretest to Post-test 1, and there were no significant differences between Pretest and Post-test 1 and between Post-tests 1 and 2.

- The scores for the Conceptual IE group improved significantly from Pretest to Post-tests 1 and 2, and there were no significant differences between Post-tests 1 and 2.

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- There were no significant differences among the three groups for Pretest, Post-test 1, and Post-test 2.

The present hypothetical conditional. Table 28 presents the descriptive statistics for the scores for the present hypothetical conditional in Pretest, Post-test 1, and Post-test 2. The maximum possible score was 48 points. Figure 11 shows the M and CI for the written grammar test on the present hypothetical conditional.

Table 28.

Descriptive Statistics for the Written Grammar Test on the Present Hypothetical Conditional (N = 86)

Group	Section	M (*SD*)	CI [*LL, UL*]
Affective IE (*n* = 28)	Pretest	26.81 (15.21)	[21.07, 32.55]
	Post-test 1	34.89 (15.39)	[29.08, 40.70]
	Post-test 2	37.19 (14.38)	[31.77, 42.61]
Perceptual IE (*n* = 29)	Pretest	31.69 (15.37)	[25.78, 36.96]
	Post-test 1	37.07 (16.62)	[31.02, 43.12]
	Post-test 2	44.30 (6.61)	[41.89, 46.71]
Conceptual IE (*n* = 29)	Pretest	23.62 (13.37)	[18.75, 28.49]
	Post-test 1	41.79 (8.75)	[38.61, 44.97]
	Post-test 2	39.61 (13.19)	[34.81, 44.41]

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95% confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.
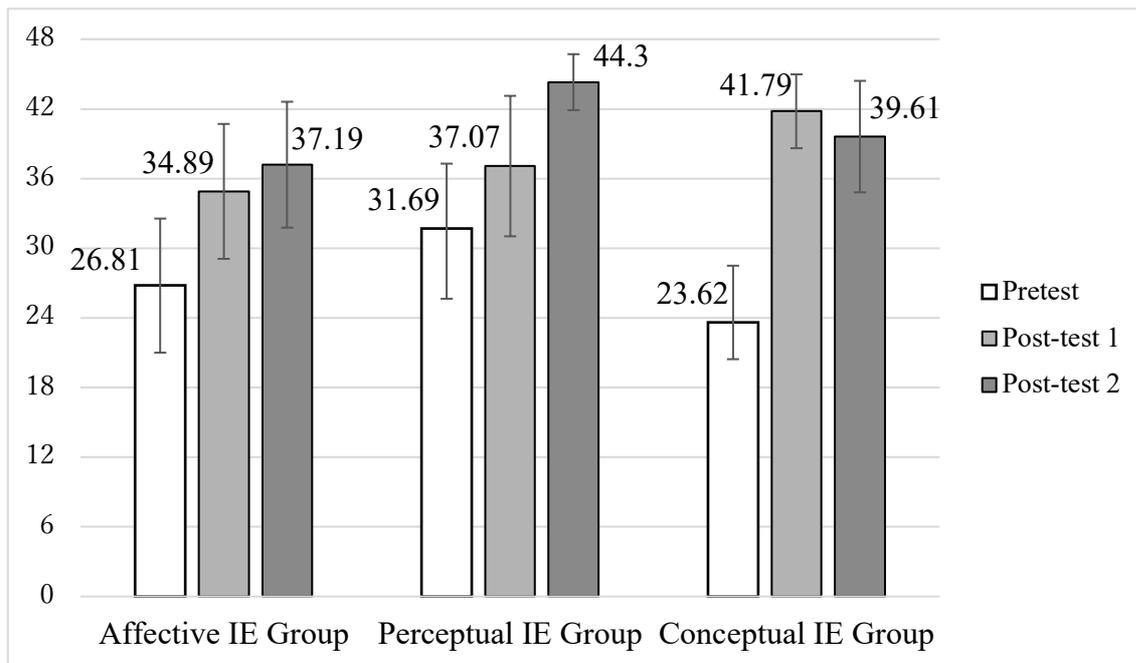
Figure 11. The mean scores for the written grammar test on the present hypothetical conditional.

The results of a two-way repeated measures ANOVA indicated a significant main effect for the test, $F(2, 164) = 44.54$, $p = .00$, partial $\eta^2 = .35$; for the interaction between the test and group, $F(4, 164) = 4.00$, $p = .00$, partial $\eta^2 = .09$; but no significant main effect for the group, $F(2, 82) = 1.28$, $p = .28$, partial $\eta^2 = .03$. Simple main effects for the test were found in the Affective IE group, $F(2, 81) = 7.83$, $p = .00$, partial $\eta^2 = .16$; in the Perceptual IE group, $F(2, 81) = 11.32$, $p = .00$, partial $\eta^2 = .22$; and in the Conceptual IE group, $F(2, 81) = 29.62$, $p = .00$, partial $\eta^2 = .42$.

Between-test comparisons for each group were performed. Table 29 shows that (1) the Affective IE and Conceptual IE groups made statistically significant gains from Pretest to Post-test 1, supported by medium or large effect sizes (around 0.50 or 0.80); (2) the Perceptual IE group's performance did not exhibit any statistically significant difference between Pretest and Post-test 1, indicating a small effect size (around 0.20); (3) all the groups made statistically significant gains from Pretest to Post-test 2, and this was supported by large effect sizes (around 0.80); (4) the Perceptual IE group made a statistically significant gain between Post-tests 1 and

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2, supported by a medium effect size (around 0.50); and (5) the performance of the Affective IE and Conceptual IE groups did not exhibit any statistically significant difference between Post-tests 1 and 2, indicating a small effect size (less than 0.20).

Table 29.

Between-test Comparisons for the Written Grammar Test on the Present Hypothetical Conditional

	Between-test Comparisons			*d*
Affective IE	Pretest (26.81)	<	Post-test 1 (34.89) **	0.53
	Pretest (26.81)	<	Post-test 2 (37.19) **	0.70
	Post-test 1 (34.89)	=	Post-test 2 (37.19) *ns*	0.15
Perceptual IE	Pretest (31.69)	=	Post-test 1 (37.07) *ns*	0.34
	Pretest (31.69)	<	Post-test 2 (44.30) **	1.07
	Post-test 1 (37.07)	<	Post-test 2 (44.30) **	0.57
Conceptual IE	Pretest (23.62)	<	Post-test 1 (41.79) **	1.61
	Pretest (23.62)	<	Post-test 2 (39.61) **	1.20
	Post-test 1 (41.79)	=	Post-test 2 (39.61) *ns*	0.19

Notes. *d* indicates Cohen's effect size; A = B indicates no significant difference between A and B; **$p < .01$.

Table 30 shows that between-group comparisons for each test did not find any statistically significant difference between the groups for each of the three tests. Table 30 also displays the effect sizes for each comparison.

Table 30.

Between-group Comparisons for the Written Grammar Test on the Present

Hypothetical Conditional

Test	Between-group Comparisons			*d*
Pretest	Affective IE (26.81)	=	Perceptual IE (31.69) *ns*	0.32
	Affective IE (26.81)	=	Conceptual IE (23.62) *ns*	0.22
	Perceptual IE (31.69)	=	Conceptual IE (23.62) *ns*	0.56
Post-test 1	Affective IE (34.89)	=	Perceptual IE (37.07) *ns*	0.14
	Affective IE (34.89)	=	Conceptual IE (41.79) *ns*	0.55
	Perceptual IE (37.07)	=	Conceptual IE (41.79) *ns*	0.36
Post-test 2	Affective IE (37.19)	=	Perceptual IE (44.30) *ns*	0.64
	Affective IE (37.19)	=	Conceptual IE (39.61) *ns*	0.17
	Perceptual IE (44.30)	=	Conceptual IE (39.61) *ns*	0.44

Notes. *d* indicates Cohen's effect size; A = B indicates no significant difference

between A and B.

The summary of the results of the multiple comparisons between tests (Table 29) and

between groups (Table 30) is as follows:

- The scores for the Affective IE group improved significantly from Pretest to Post-tests

  1 and 2, and there were no significant differences between Post-tests 1 and 2.

- The scores for the Perceptual IE group improved significantly from Pretest to Post-test

  2 and from Post-test 1 to Post-test 2, and there were no significant differences between

  Pretest and Post-test 1.

- The scores for the Conceptual IE group improved significantly from Pretest to Post-tests

  1 and 2, and there were no significant differences between Post-tests 1 and 2.

- There were no significant differences among the three groups at Pretest, Post-test 1, and Post-test 2.

Oral Grammar Test

This section reports the results for oral performance in the use of the OPREP relative clause and the present hypothetical conditional as elicited by the oral grammar test. One-way repeated measures ANOVAs were performed on the scores of the two grammatical forms from the three groups to test the effect of instruction on the development of productive skill in the use of L2 grammar.

The OPREP relative clause. Table 31 displays the descriptive statistics for the scores for the OPREP relative clause in the oral grammar test. The maximum possible score was 12 points. Figure 12 shows the *M* and CI of the oral grammar test on the OPREP relative clause.

Table 31.

Descriptive Statistics for the Oral Grammar Test on the OPREP Relative Clause (N = 86)

Group	*M* (*SD*)	CI [*LL, UL*]
Affective IE (*n* = 28)	7.64 (3.33)	[6.41, 8.87]
Perceptual IE (*n* = 29)	8.62 (2.40)	[7.75, 9.49]
Conceptual IE (*n* = 29)	6.86 (3.04)	[5.71, 8.01]

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95% confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.
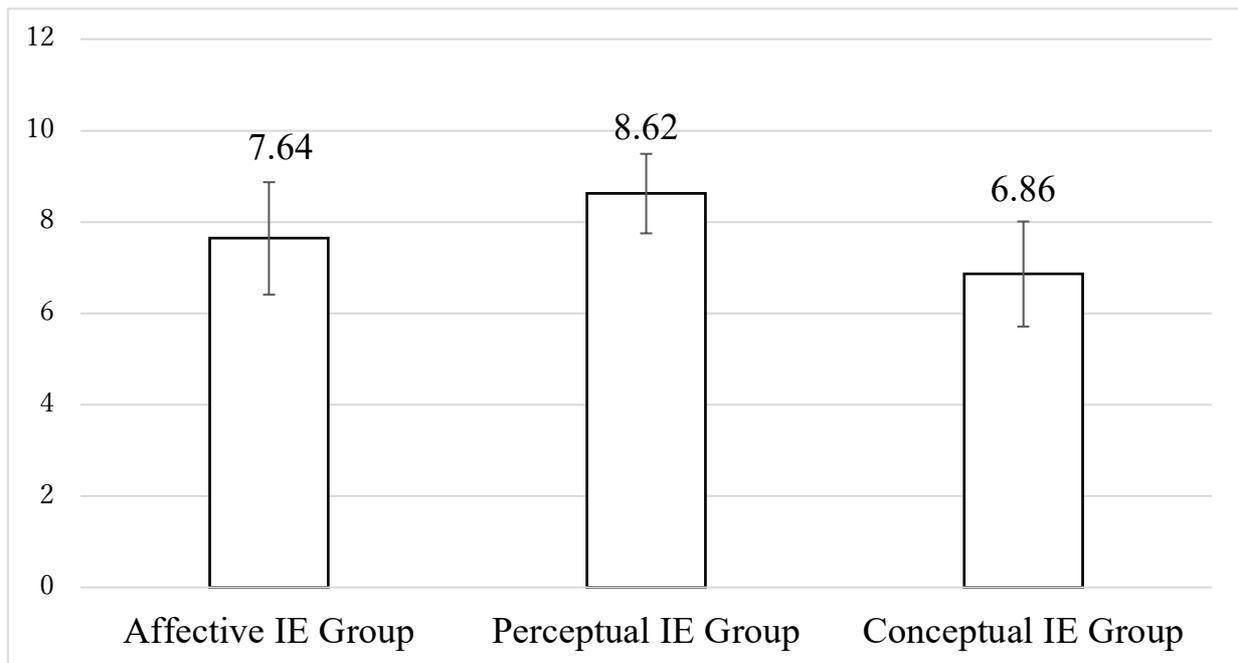
Figure 12. The mean scores for the oral grammar test on the OPREP relative clause.

A one-way ANOVA was conducted on the scores of the oral grammar test on the OPREP relative clause in the Affective IE, Perceptual IE, and Conceptual IE groups. The results indicated that there were no statistically significant differences among the three groups, $F(2, 83)$ = 2.53, p = .09, partial η^2 = .06. Table 32 shows the results of a between-group comparison of the three groups.

Table 32.

Between-group Comparisons of the Oral Grammar Test on the OPREP

Relative Clause

Between-group Comparisons			d
Affective IE (7.64)	=	Perceptual IE (8.62) *ns*	0.34
Affective IE (7.64)	=	Conceptual IE (6.86) *ns*	0.24
Perceptual IE (8.62)	=	Conceptual IE (6.86) *ns*	0.63

Notes. *d* indicates Cohen's effect size; A = B indicates no significant

difference between A and B.

The summary of the results of the multiple comparisons between groups (Table 32) is as

follows:

- No significant differences were found among the three groups.

The present hypothetical conditional. Table 33 presents the descriptive statistics for the

scores for the oral grammar test on the present hypothetical conditional. The maximum possible

score was 12 points. Figure 13 shows the *M* and CI of the oral grammar test on the present

hypothetical conditional.

Table 33.

Descriptive Statistics for the Oral Grammar Test on the Present

Hypothetical Conditional (N = 86)

Group	*M* (*SD*)	CI [*LL, UL*]
Affective IE (*n* = 28)	7.71 (3.25)	[6.51, 8.91]
Perceptual IE (*n* = 29)	7.55 (2.60)	[6.60, 8.50]
Conceptual IE (*n* = 29)	8.24 (2.97)	[8.45, 10.45]

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95% confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.
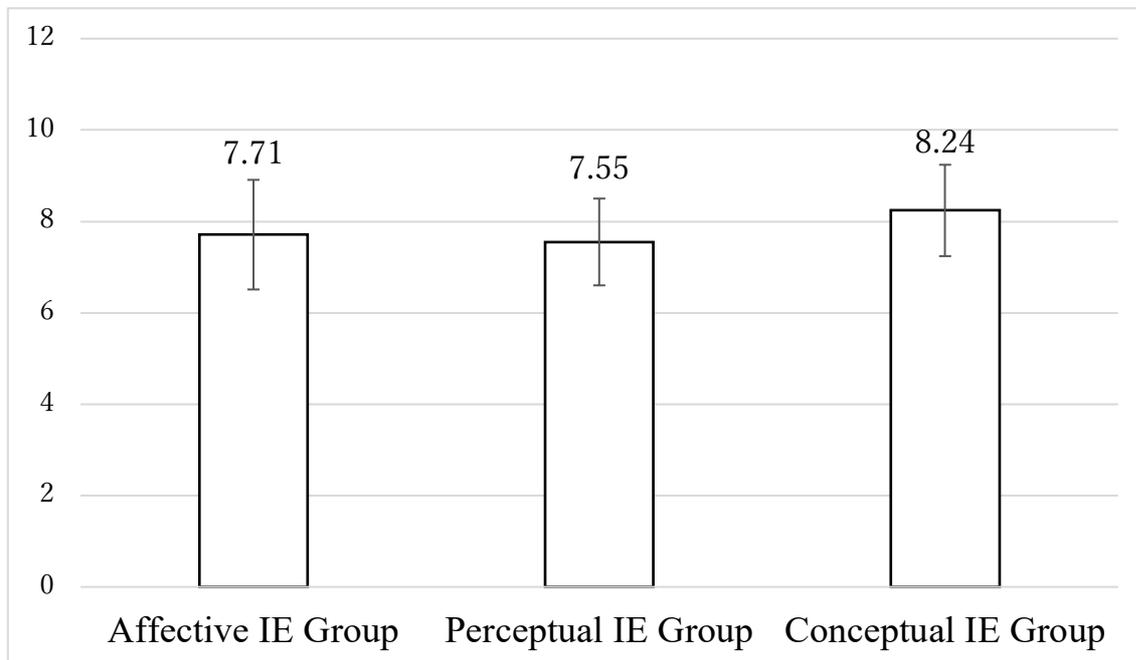
Figure 13. The mean scores for the oral grammar test on the present hypothetical conditional.

The result of a one-way ANOVA conducted on the scores for the oral grammar test on the present hypothetical conditional indicates that there was a statistically significant effect for the group, $F(2, 83) = 3.86$, $p = .03$, partial $\eta^2 = .09$. Table 34 shows the results of a between-group comparison of the three groups. The results indicate that (1) there was no significant difference between the Affective IE and Perceptual IE groups, indicating a small effect size (less than 0.20); (2) there was no significant difference between the Affective IE and Conceptual IE

groups, indicating a medium effect size (around 0.50); and (3) the Conceptual IE group statistically significantly outperformed the Perceptual IE group, and this was supported by a large effect size (around 0.80).

Table 34.

Between-group Comparisons for the Oral Grammar Test on the Present Hypothetical Conditional

Between-group Comparisons			d
Affective IE (7.71)	=	Perceptual IE (7.55) *ns*	0.05
Affective IE (7.71)	=	Conceptual IE (8.24) *ns*	0.58
Perceptual IE (7.55)	<	Conceptual IE (8.24) *	0.71

Notes. d indicates Cohen's effect size; A = B indicates no significant difference between A and B; *p < .05.

The summary of the results of the multiple comparisons between groups (Table 34) is as follows:

- There were no significant differences between the Affective IE group and the Perceptual IE group and between the Affective IE group and the Conceptual IE group.
- The Conceptual IE group outperformed the Perceptual IE group.

Summary of the Multiple Comparisons between Groups and between Tests

This subsection summarizes the results of the multiple comparisons between tests and between groups.

Between-group Comparisons for the Affective Processing of the Text Topic (Table 15)

- The Affective IE group outperformed the Perceptual IE and Conceptual IE groups.

- No significant differences were found between the Perceptual IE and Conceptual IE groups.

Between-groups Comparisons for the Multiple-choice Questions (Table 17)

- No significant differences were found among the three groups.

Between-groups Comparisons for the Free-response Question (Table 18)

- The Affective IE group outperformed the Perceptual IE and Conceptual IE groups.

- No significant differences were found between the Perceptual IE and Conceptual IE groups.

Between-test Comparisons for the Form Section of the Written Vocabulary Test (Table 20)

- The scores for the Affective IE group improved significantly from Pretest to Post-tests 1 and 2, and there were no significant differences between Post-tests 1 and 2.

- The scores for the Perceptual IE group improved significantly from Pretest to Post-tests 1 and 2, and there were no significant differences between Post-tests 1 and 2.

- The scores for the Conceptual IE group improved significantly from Pretest to Post-tests 1 and 2, but there was a significant decrease from Post-test 1 to Post-test 2.

Between-group Comparisons for the Form Section of the Written Vocabulary Test (Table 21)

- There were no significant differences among the three groups at Pretest, Post-test 1, and Post-test 2.

Between-test Comparisons for the Meaning Section of the Written Vocabulary Test (Table 23)

- The overall scores of the three groups improved significantly from Pretest to Post-tests 1 and 2, and there was a significant decrease from Post-test 1 to Post-test 2.

Between-group Comparisons for the Meaning Section of the Written Vocabulary Test (Table 24)

- No significant differences were found among the three groups.

Between-test Comparisons for the Written Grammar Test on the OPREP Relative Clause (Table 26)

- The scores for the Affective IE group improved significantly from Pretest to Post-tests 1 and 2 and improved from Post-test 1 to Post-test 2.

- The scores for the Perceptual IE group improved significantly from Pretest to Post-test 1, and there were no significant differences between Pretest and Post-test 1 and between Post-tests 1 and 2.

- The scores for the Conceptual IE group improved significantly from Pretest to Post-tests 1 and 2, and there were no significant differences between Post-tests 1 and 2.

Between-group Comparisons for the Written Grammar Test on the OPREP Relative Clause (Table 27)

- There were no significant differences among the three groups at Pretest, Post-test 1, and Post-test 2.

Between-test Comparisons for the Written Grammar Test on the Present Hypothetical Conditional (Table 29)

- The scores for the Affective IE group improved significantly from Pretest to Post-tests 1 and 2, and there were no significant differences between Post-tests 1 and 2.

- The scores for the Perceptual IE group improved significantly from Pretest to Post-test 2 and from Post-test 1 to Post-test 2, and there were no significant differences between Pretest and

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Post-test 1.

- The scores for the Conceptual IE group improved significantly from Pretest to Post-tests 1 and 2, and there were no significant differences between Post-tests 1 and 2.

Between-group Comparisons for the Written Grammar Test on the Present Hypothetical Conditional (Table 30)

- There were no significant differences among the three groups at Pretest, Post-test 1, and Post-test 2.

Between-group Comparisons for the Oral Grammar Test on the OPREP Relative Clause (Table 32)

- No significant differences were found among the three groups.

Between-group Comparisons for the Oral Grammar Test on the Present Hypothetical Conditional (Table 34)

- There were no significant differences between the Affective IE group and the Perceptual IE group and between the Affective IE group and the Conceptual IE group.

- The Conceptual IE group outperformed the Perceptual IE group.

Chapter 9: Discussion and Conclusion

Introduction

  This chapter discusses the results obtained from the quasi-experiment described in Chapter 7 to test the five hypotheses to explore the effects of Affective IE on (1) the participants' evaluation of the text topic, (2) the text comprehension, (3) the learning of vocabulary, (4) the learning of grammatical forms in the written mode, and (5) the learning of grammatical forms in the oral mode. This chapter further analyzes the Affective IE group's written answers to a text comprehension question from the perspective of L2 learners as meaning-making and value-assigning agents. Finally, the dissertation concludes with the theoretical and pedagogical implications.

Hypothesis 1: The Effects of Affective IE on the Evaluation of the Text Topic

  The questionnaire results rejected Hypothesis 1, which predicted no statistically significant difference among the Affective IE group, the Conceptual IE group, and the Perceptual IE group in their scores for affective evaluation of the text topic. The results indicated that the Affective IE group evaluated the text topic more positively than the contrast groups as measured by a Likert-scale questionnaire, suggesting that Affective IE was effective in facilitating L2 learners' positive affective reaction to the text topic (See Table 15). Therefore, the answer to RQ 1 (Does Affective IE facilitate L2 learners' positive evaluation of the text topic?) is affirmative.

  This finding is compatible with that of the pilot study (Oyama, in preparation) in that the Affective IE group evaluated the text topic more positively than the contrast group. In the pilot study, although the analysis of a Likert-scale questionnaire did not detect any significant differences, the Japanese university students in the Affective IE group reacted to the text topic

more positively than those in the Conceptual IE group as measured by their responses to a free-response question regarding the text topic.

The present study employed Scherer's (1984) five stimulus evaluation checks (i.e., novelty, goal/need significance, coping potential, and self/norm compatibility) to measure the participants' affective reaction to the text topic, based on a traditional assumption in social psychology that human emotions emerge as a result of individuals evaluating, or assigning a positive or negative value to the input stimulus according to a set of criteria (e.g., Scherer's five checks). If a learner evaluates the text topic positively in terms of the five checks, he or she will experience a positive or pleasant emotional state regarding the topic. From the MOGUL perspective, as discussed in Chapter 4, the five checks can be analyzed into four items relevant to conceptual processing including the SELF-related concepts (i.e., novelty, goal/need significance, coping potential, and self/norm compatibility) and one item relevant to affective processing (i.e., pleasantness). The implication is that conceptual processing and affective processing are inseparable from one another in generating emotion. From this point of view, the finding from the testing of Hypothesis 1 can also be interpreted as the successful enhancement by Affective IE of the affective and conceptual processing of the SELF concepts. In Affective IE, the instructor (i.e., the researcher) talked about the possible connection between the text topic (i.e., cross-cultural communication) and the participants' lives and futures, which might have helped them exert their agency to assign their personal meanings or values to the text topic. To affirm this, a further analysis was carried out as shown in a following section (See "Further Analysis: The Qualitative Analyses of the Written Answers to the Evaluative Question by the Affective IE Group" in this chapter). In the analysis, the participants' comments on the text topic as elicited by the evaluative question were examined in terms of L2 learners as meaning-making and value-assigning-agents.

Regarding the affective item in the five checks (i.e., the pleasantness check), it should be noted that all the participants in the Affective IE group answered the pleasantness question by rating it as 4 (i.e., the maximum evaluation). Table 35 shows the descriptive statistics for the scores for the pleasantness item in the questionnaire.

Table 35.

Descriptive Statistics for the Pleasantness Item in the Questionnaire (N = 86)

Group	*M* (*SD*)	CI [*LL, UL*]
Affective IE (*n* = 28)	4.00 (0.00)	[3.79, 4.21]
Perceptual IE (*n* = 29)	3.00 (0.66)	[2.79, 3.21]
Conceptual IE (*n* = 29)	3.03 (0.73)	[2.82, 3.25]

Notes. *M* stands for mean; *SD* stands for standard deviation; CI indicates 95% confidence interval; *LL* indicates lower limit; *UL* indicates upper limit.

The result of a non-parametric testing method (i.e., the Kruskal-Wallis test by ranks) indicated a significant main effect for the group, $H(2) = 40.79$, $p = .00$. Table 36 shows the results of a between-group comparison among the three groups.

Table 36.

Between-group Comparisons for the Pleasantness Item in the

Questionnaire

Between-group Comparisons			*d*
Affective IE (4.00)	>	Perceptual IE (3.00) **	2.14
Affective IE (4.00)	>	Conceptual IE (3.03) **	1.88
Perceptual IE (3.00)	=	Conceptual IE (3.03) *ns*	0.04

Notes. *d* indicates Cohen's effect size; A = B indicates no significant

difference between A and B; **$p < .01$.

The results of the between-group comparison reveal that the Affective IE group

outperformed the two contrast groups, which indicates large effect sizes (greater than 0.80).

There were no significant differences between the two contrast groups (*d* = 0.04). As evidenced

by this result, Affective IE was more effective in facilitating L2 learners' positive evaluation of

the text topic than Perceptual IE and Conceptual IE.

Hypothesis 2: The Effects of Affective IE on L2 Text Comprehension

Hypothesis 2 predicted no statistically significant difference among the Affective IE group,

the Conceptual IE group, and the Perceptual IE group in their scores for text comprehension as

measured by multiple-choice questions (Hypothesis 2a) and by a free-response question

(Hypothesis 2b). Hypothesis 2 was partially rejected as the results indicated that (1) there were

no statistically significant differences among the groups in the scores for the multiple-choice

questions (See Table 17), but (2) the Affective IE group outperformed the two contrast groups in

the scores for the free-response question (See Table 18). These results suggest that Affective IE

was more effective in facilitating L2 learners' deep understanding of the text than Perceptual IE

and Conceptual IE. Therefore, the answer to RQ 2 (Does Affective IE facilitate L2 learners' text comprehension?) is affirmative.

These findings are consistent with those of the pilot study (Oyama, in preparation), in which a superior effect of Affective IE was identified in a free-response question (i.e., a free-recall task). An explanation from the MOGUL framework is that the spreading activation effect and/or the attention-guiding effect of affect (See Chapter 5) contributed to the Affective IE group's better performance in text comprehension. More specifically, more positive affective states regarding the text topic spread to, and associated with, perceptual, conceptual, and possibly linguistic processing of the text features that outlined the text topic, allowing the participants to activate and retrieve necessary information to understand the message of the text effectively (i.e., the spreading activation effect). It is also possible that linguistic items that best described the text topic were associated with a certain type of affect and, therefore, they were more salient and guided the participants' attention to the linguistic items, leading to more effective text comprehension. Affect is constantly active and can easily reach a high activation level (Truscott, 2015). Therefore, the effects of affect influence processing across modules to a greater degree than is true of Perceptual IE and Conceptual IE.

Another possible explanation could be that, while a superficial understanding of the text elicited by fact-finding (i.e., true or false) questions (Tanaka et al., 2011) could be equally facilitated by Affective IE, Perceptual IE, and Conceptual IE, a deeper understanding of the text as measured by an evaluative question (Tanaka et al., 2011) could be enhanced more strongly by Affective IE. This enhancement could be because Affective IE helped the participants to connect themselves to the text topic; the instructor spoke to them during the oral introduction about Japanese culture, their daily lives, and their futures. The evaluative question also required the participants to address the same themes, "How do you think the topic of this text is related to your daily life or future?" In other words, the participants in the Affective IE group might

deepen their understanding of the text topic by adding personal information to the topic, such as their own lives, future careers, goals, and self-images, which are all related to the self-concept (e.g., identity). As reviewed earlier, self-concepts always evoke emotion and vice versa (Truscott, 2015).

Hypothesis 3: The Effects of Affective IE on the Learning of L2 Vocabulary

Hypothesis 3, which predicted no significant differences between Test (i.e., Pretest, Post-test 1, and Post-test 2) and between Group (i.e., the Affective IE group, the Perceptual IE group, and the Conceptual IE group) in their scores for the form section (Hypotheses 3a, 3b, 3c. 3d, and 3e) and the meaning section (Hypotheses 3f, 3g, 3h, 3i, and 3j) of the written vocabulary test, was largely rejected by the following results: (1) The Affective IE group's scores for the form section improved significantly from Pretest to Post-tests 1 and 2, and there were no significant differences between Post-tests 1 and 2 (See Table 20); (2) in the scores for the form section, there were no significant differences among the three groups at Pretest, Post-test 1, and Post-test 2 (See Table 21); (3) the three groups' scores for the meaning section improved significantly from Pretest to Post-tests 1 and 2, but there was a significant decrease from Post-tests 1 to Post-test 2 (See Table 23); and (4) in the scores for the meaning section, there were no significant differences among the three groups (See Table 24). Overall, Affective IE was found to be as effective as the methods used in the contrast groups in promoting the learning of the two aspects of L2 vocabulary knowledge. Therefore, the answer to RQ 3 (Does Affective IE have an effect on L2 learners' learning of vocabulary?) is affirmative.

These findings are partially consistent with those of the pilot study. Oyama (in preparation) found that Affective IE and Conceptual IE were equally effective in the learning of the form of L2 vocabulary, but Conceptual IE was more effective in facilitating the semantic learning of L2 vocabulary. Although there were no significant differences among groups in the semantic

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learning of L2 vocabulary in the present study, it should be noted that the results also indicate large effect sizes in the comparisons between Affective IE and Perceptual IE ($d = 0.69$) and between Affective IE and Conceptual IE ($d = 0.88$), both of which are in favor of the contrast groups (See Table 24). For this reason, these results can be interpreted as indicating stronger effects of Perceptual IE and Conceptual IE on the sematic learning of L2 vocabulary. As explained in Table 8 in Chapter 7, Perceptual IE and Conceptual IE include explicit instruction, both/either of which directed learners' attention to the target linguistic forms explicitly and/or form-focused practice that required them to use their explicit knowledge about the target forms. These explicit types of instruction might have resulted in the performance of the Perceptual IE and Conceptual IE groups. More empirical studies with a refined research design are necessary to determine which type of input enhancement is more effective in the semantic learning of L2 vocabulary.

However, Affective IE turned out to be effective enough to demonstrate significant gains from the pretest to the post-tests on the form and meaning sections. The spreading activation effect, the consolidation effect, and the attention-guiding effect provide an explanation for these findings. (See Chapter 5). The more positive affect elicited by Affective IE spread to, and became associated with, perceptual and/or conceptual representations of the L2 words expressing the topic, enabling the participants to use the words for input processing effectively (i.e., the spreading activation effect). The highly activated positive affect, which is stored in the long-term memory, strengthened its association with the perceptual and/or conceptual representations of the L2 words expressing the topic, leading to the consolidation of the associated representations in long-term memory (i.e., the consolidation effect). In addition, L2 words describing the topic were more likely to be associated with affective representations enhanced by Affective IE, increasing the likelihood of the affect-associated words attracting attention, being processed, and being learned (i.e., the attention-guiding effect).

Extract 1 below is part of the text (See Appendix C1) the researcher wrote for the purpose of the study. The text was a summary of Meyer (2014). The extract includes one of the target words, "implicitly," which was key to understanding the section of the text and to understanding the participants' own Japanese high-context culture.

Extract 1.

Among others, while Japan, China, and Korea belong to the high-context group, in which people express their messages implicitly and take meaning from unspoken ideas, the United States, Australia, and Canada belong to the low-context group, in which messages are precise, simple, and explicit (Appendix C).

In Affective IE, to introduce cross-cultural communication to the participants, the instructor (i.e., the researcher) talked about modesty as an example of Japanese culture. Therefore, their affect regarding Japanese culture could have been enhanced. Moreover, Japanese culture is closely related to their concepts of identity or self. This is why their affect regarding Japanese culture was likely to be enhanced. While the participants were reading the part of the text, their enhanced affective representations assigned to Japanese culture might have been associated with perceptual and/or conceptual representations of L2 words, such as "Japan," "the high-context group," "express," "message," and "implicitly." The perceptual and conceptual representations of those words might have acquired a positive value and therefore gained high activation levels, resulting in the consolidation of the perceptual, conceptual, and possibly linguistic representations of the words in long-term memory.

Hypothesis 4: The Effects of Affective IE on the Learning of L2 Grammatical Forms

Hypothesis 4, which predicted no significant differences between Test (i.e., Pretest, Post-test 1, and Post-test 2) and between Group (i.e., the Affective IE group, the Perceptual IE group, and the Conceptual IE group) in their scores of the OPREP relative clause (Hypotheses 4a, 4b, 4c, 4d, and 4e) and the present hypothetical conditional (Hypotheses 4f, 4g, 4h, 4i, and 4j) of the written grammar test, was largely rejected in that (1) the scores for the OPREP relative clause for the Affective IE group improved significantly from Pretest to Post-tests 1 and 2, and further improved from Post-test 1 to Post-test 2 (See Table 26); (2) in the results for the OPREP relative clause, there were no significant differences among the three groups at Pretest, Post-test 1, and Post-test 2 (See Table 27); (3) the scores for the present hypothetical conditional by the Affective IE group improved significantly from Pretest to Post-tests 1 and 2, and there were no significant differences between Post-tests 1 and 2 (See Table 29); and (4) in the scores for the present hypothetical conditional, there were no significant differences among the three groups at Pretest, Post-test 1, and Post-test 2 (See Table 30). These results demonstrate that Affective IE effectively facilitated the learning of the ORPEP relative clause and the present hypothetical conditional to the same extent as Perceptual IE and Conceptual IE, as measured by the written grammar test. The answer to RQ 4 (Does Affective IE have an effect on L2 learners' learning of grammatical forms?) is affirmative.

The pilot study did not address the research question, and no previous studies had explored the effects of Affective IE on L2 grammar learning. The findings obtained from the present study suggest that Affective IE is effective in facilitating the learning of L2 grammatical forms. The findings can be attributed to the spreading activation effect, the consolidation effect, and the attention-guiding effect of affect (See Chapter 5). As shown in the results of the testing of Hypothesis 1, Affective IE successfully enhanced the participants' positive affect regarding the text topic. While reading the text, the enhanced affective representations and perceptual and/or

conceptual representations of the grammatical forms expressing the text topic were active at the same time and, therefore, the representations were connected in the participants' minds through associative learning. That connection further increased the resting levels of perceptual, conceptual, and linguistic representations of the grammatical forms (i.e., the spreading activation effect). The linguistic representations that were directly or indirectly associated with highly activated affective representations would also gain high activation levels, and the association between them would be strengthened. As a result, the representations related to the grammatical forms could be consolidated in long-term memory (i.e., the consolidation effect). The attention-guiding effect can also explain that the grammatical forms expressing the text topic became associated with a positive affect while the participants were reading the text, and the grammatical forms attracted the participants' attention, thereby facilitating noticing (Robinson, 1995; Schmidt, 1990). These effects are intertwined and cannot be separated from each other. Therefore, it is plausible to assume that the composite effect of the spreading activation effect, the consolidation effect, and the attention-guiding effect (See Chapter 5 for a detailed discussion) contributed to the results.

The following is an example of how Affective IE worked. Extract 2 from the text explains that understanding the atmosphere in a meeting and reading implicit messages in a conversation are crucial in Japanese culture. The phrase "a KY person" represents a person who does not have these skills and causes discord in a meeting or conversation. Therefore, the phrase is often used to evaluate people in a negative way. The present hypothetical conditional was key to understanding the message of the sentence because Japanese people, including the participants (i.e., the readers) in this study, were supposed to be familiar with organizing implicit communication in their daily lives.

Extract 2.

If you did not succeed in it in the meeting, you could be labeled a KY person (See

Appendix C).

As shown by the results of the testing of Hypothesis 1, the participants' positive value was

assigned to the text topic (i.e., cross-cultural communication). The perceptual and conceptual

representations of the grammatical form (i.e., the present hypothetical conditional), expressing

part of the text topic, might have gained positive value through receiving Affective IE, leading to

the effective use of the form in input processing and the consolidation of the perceptual,

conceptual, and linguistic representations of the form in long-term memory.

It should be noted that the scores for the OPREP relative clause for the Affective IE group

improved not only from the pretest to the two post-tests but also from the immediate post-test to

the delayed post-test. The MOGUL framework does not fully explain why this did not happen

with the present hypothetical conditional and why the scores improved from the immediate post-

test to the delayed post-test. As discussed in the section "Instructional Treatment" in Chapter 7,

Affective IE was labeled as relatively implicit instruction. It can be inferred that implicit

instruction has a delayed effect on L2 learning in certain conditions. Further research is

necessary to address this issue.

In addition, the target forms included the two different types of grammatical forms: the

OPREP relative clause, which requires L2 learners to fill the gap in the object of a preposition,

and the present hypothetical conditional, which requires L2 learners to process two different

meanings (i.e., temporal and propositional) at the same time to understand the sentence correctly.

The present study provided empirical evidence showing that Affective IE was amenable to the

learning of the two grammatical forms.

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Hypothesis 5: The Effects of Affective IE on the Development of Productive Skills in the Use of L2 Grammatical Forms

Hypothesis 5, which predicted no statistically significant differences among the Affective IE group, the Perceptual IE group, and the Conceptual IE group in their oral grammar test scores for the OPREP relative clause and the present hypothetical conditional, was not rejected by the results indicating that (1) there were no statistically significant differences among the three groups in their scores for the OPREP relative clause (See Table 32), and (2) there were no statistically significant differences between the Affective IE group and the Perceptual IE group and between the Affective IE group and the Conceptual IE group, and that the Conceptual IE group outperformed the Perceptual IE group in their scores for the present hypothetical conditional (See Table 34). The present study found that there were no differences between the Affective IE group and the Perceptual IE group and between the Affective IE group and the Conceptual IE group in their oral performance in the use of the L2 grammatical forms. The answer to RQ 5 (Does Affective IE have an effect on L2 learners' development of productive skills in the use of grammatical forms?) is negative.

Due to the research design (i.e., the between-subject comparison) employed in the present study, the question as to whether Affective IE is effective in facilitating the development of productive skills in the use of L2 grammatical forms remains unclear. It is necessary to employ the pretest/post-test design (i.e., the between-test comparison) along with the between-subject design in order to examine the effects of Affective IE on the learning of L2 grammatical forms as measured by the oral grammar test.

Another reason why there were no significant differences among the groups as measured by the oral grammar test can be explained by the notion of *transfer appropriateness* (Bransford, Franks, Morris, & Stein, 1979), which claims that the participants who received learning training compatible with the test achieve higher scores on the test than those who received learning

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training incompatible with the test. The instructional treatment used in the present study was based on input processing (i.e., comprehension or receptive skills), which did not require the participants to produce any L2 output. In contrast, the oral grammar test used in this study required them to read aloud the summary of the text while filling the blanks with the correct words, requiring the production of L2 output (i.e., production or productive skills). The difference between the learning process and the testing process might have contributed to the results. It is also possible that even though there was a difference in the modality between the learning and the testing sessions, a longer period of instruction might have contributed to the differential effects of the three types of instruction.

Finally, the participants were not familiar with the testing method used in the oral grammar test. It was the first time the participants experienced the oral grammar test employed in this study. This explains the possibility that the oral grammar test did not measure the outcome of the participants' learning accurately.

Further Analysis: The Qualitative Analyses of the Written Answers to the Evaluative Question by the Affective IE Group

In this section, the researcher analyzed the Affective IE group's answers to the evaluative question (i.e., "How do you think the topic of this text is related to your daily life or future?") as a text comprehension test. The researcher translated the answers written in Japanese into English for the purpose of this analysis. This analysis focuses on the connection between the content of the participants' responses and their self-concepts (e.g., identity and agency), which are accommodated in the MOGUL framework as SELF (Truscott, 2015). Based on the concepts of agency (Duff, 2013) and identity (Norton, 2000), as stated in Chapter 3, the researcher sees L2 learners as meaning-making and value-assigning agents, who exert the ability to determine whether the L2 input material is meaningful and worth reading in terms of their personal goals or

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identities, or whether/how it is connected to their worlds, lives, and possible futures. Therefore, the purpose of this analysis was to find the meaning-making and value-assigning aspects of L2 learners expressed in their written comments and to explore qualitatively whether Affective IE used in the study was successful in enhancing these aspects.

The following four comments from Participants 1, 2, 3, and 4 indicate that they tried to assign their personal meanings to what they learned from the text. Participant 1 found a connection between international conflicts broadcast on TV and what he/she learned from the text. Participant 2 noticed that the points in the text could be applied to building a good relationship with his friends, girlfriend, and family members. Participant 3 tried to assign a positive meaning (e.g., "broadens my horizon" and "will be more fun") to cultural differences in communication. Participant 4 tried to understand the text based on his/her past experience and regarded the content of the text as something that empowers him/her to live better in society. From these extracts, it is suggested that the participants were connecting the world surrounding them to the text contents, which demonstrates L2 learners' meaning-making aspect. In other words, affordance (Gibson, 1979) emerged between the text as a linguistic environment and the participants as agents (See the section titled "Input and Affordance" in Chapter 3).

Participant 1.

"I often see TV news saying that there are conflicts between Japan and other countries. If we understand their cultures and values, we may be able to acquire a different, better way to understand the news."

Participant 2.

"This topic is related not only to communication with foreigners but with anybody around me like friends, girlfriend, and family."

Participant 3.

"When I communicate with foreign people and Japanese people who have different ways of thinking, I think I should try to understand and accept them. In addition, if I see cultural differences not as an obstacle in communication, but as something that broadens my horizon, cross-cultural communication will be more fun."

Participant 4.

"Since I became a university student, I have realized that even among Japanese people we all are different in culture and thought. Sometimes I am surprised at my friends' behaviors. Studying about cross-cultural communication enables me to be myself and to respect others at the same time. This is key to survival in this stressful society."

In the extracts from Participants 5, 6, and 7 below, it is suggested that they want to be a teacher in the future and they predicted that there were likely to be more opportunities to interact with foreign people in a school in some way. These comments show that they were connecting the text to their possible futures or future selves, indicating their current identities as aspiring teachers.

Participant 5.

"When I become a teacher in the future, there may be students with different cultural backgrounds and foreign parents. There may also be foreign colleagues in the school. Knowing that cultural differences can cause misunderstandings and conflicts in communication will help me cope with these situations. In my college life, I have some opportunities to talk to a Korean professor and to international students, so I want to keep today's class in mind."

Participant 6.

"In the future, I want to work in a school. I think that as the number of foreign workers increases, the number of foreign students will also increase. Understanding the students' cultures and the environments in which they grew up will help me to avoid and to cope with cultural conflicts."

Participant 7.

"Teachers will have more opportunities to interact with foreign people in the near future. We need to know their cultures to coexist and live together."

The extracts from Participants 8 and 9 imply that they reacquainted themselves with their own culture. In other words, they tried to see themselves from different angles. Participant 8 expressed his/her thoughts that "The stereotype 'I am always right'" is wrong. In the extract from Participant 9, the word "KY" is an acronym for the Japanese phrase "kuuki yomenai," which literally means "cannot read the air." A KY person means a person who cannot read the implicit messages in conversations or cannot read the atmosphere in a meeting. In Japanese culture, understanding unspoken ideas is required for smooth communication with others. If you

fail to do this, you will be labeled as a KY person. Participant 9 stated that "I may be a KY person as well." Participant 9 understood that he/she could be a KY person from the perspective of foreign people because of cultural differences. These extracts can be interpreted as the text contents enabling the participants to acquire a new way of seeing themselves.

Participant 8.

"Regardless of whether or not they are Japanese, when I communicate with somebody, I should understand and accept that they have their own cultural backgrounds, and I have my own background. The stereotype 'I am always right' should be abandoned."

Participant 9.

"The text taught me that, when a communication breakdown happens with a foreign person, I should not label him/her as a KY person because I may also be a KY person to him/her. This way of thinking will help me try to understand foreign people."

From the results of this analysis, it can be said that the participants in the Affective IE group tried to give their own meanings and values to the content of the text through reading it. As shown in the participants' comments, for example, they found a possible connection between the topic and their daily lives, revealed their current identity as aspiring teachers, or observed themselves from different angles. In this way, Affective IE enhanced the conceptual processing of the self-concepts. Self and emotions are closely tied with each other in the associative network in the brain (See the subsection "Affective structures" in Chapter 4); thus, it can be assumed that the enhanced processing of the self-concepts further boosted affective processing regarding the perceptual, conceptual, and possibly linguistic representations associated with the text topic.

Limitations of the Present Study and Directions for Further Research

Further research is needed to arrive at a better understanding of the effects of affective processing on L2 development in the context of instructed SLA. This section details several limitations of the present study and directions for further research.

Duration of the instructional treatment. The instructional treatment for all three groups lasted 50 minutes. According to Doughty (2003), the most frequent duration of instruction employed in effect-of-instruction studies as reported in Norris and Ortega (2000) was 1 to 4 hours. In comparison with this duration of instruction, the instructional treatments in this study were shorter. To maximize the effects of instruction and to measure the effects accurately in future studies, a longer-term instructional treatment is desirable.

Pygmalion effect. The Pygmalion effect, in which a teacher's high expectations could result in students' good performance, might have affected the results of the present study. The researcher instructed the Affective IE group.

Length of the post-test period. The interval between the immediate post-test and the delayed post-test was 4 weeks. The 4-week interval was too short to examine the long-term effect of Affective IE. A longer post-test period is necessary to determine the long-term effect of Affective IE.

Oral grammar test. As mentioned earlier, in order to examine the effects of Affective IE on the learning of L2 grammatical forms by an oral grammatical test, future studies need to employ a between-test design along with a between-subject design. In a between-subject design, the effects of Affective IE are verified only when the Affective IE group significantly outperforms the contrast groups, which did not happen in the present study.

The primary reason why the researcher did not employ the pretest/post-test design for the oral grammatical test was two-fold. First, the test required the participants to read aloud the summary of the reading material used in the instructional session. For the purpose of the study,

the summary should not have been given before the reading of the text. Second, the reading-aloud task should be done after the reading activity to preserve the form of a routine class. The researcher's routine classes include an introduction, listening or reading comprehension, and a speaking or writing activity, typically presented in the input-to-output order. Because of the research design, the instructional session and the testing session on the day of the data collection were integrated as naturally as possible. This contributed to increasing the *ecological validity* (van Lier, 2004) of the present study as a classroom-setting study.

Individual differences. Further research should take individual differences into consideration. In particular, *emotional intelligence (EI)* could be a possible intervening variable on the effects of Affective IE. EI has been defined as follows:

> We define EI as the capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth (Mayer, Salovey, & Caruso, 2004, p. 197).

In psycholinguistic research on L2, a significant positive correlation between EI and recall performance of L2 words was reported (Kanazawa, 2016b). In future research, EI could be used as a variable to predict the effects of Affective IE on L2 vocabulary and grammar learning.

The combination effects of different types of input enhancement techniques. It would be of interest to investigate whether the combinations of different types of input enhancement techniques (e.g., Affective IE + Conceptual IE or Affective IE + Perceptual IE) are effective in enhancing L2 processing and development. These combinations are highly plausible because the perceptual, conceptual, and affective modules are directly connected to each other in the MOGUL architecture of human cognition.

Other Affective IE methods. Further study should explore other methods of implementing Affective IE and the optimal conditions for maximizing its effects on L2 development. For example, manipulating the affective variables in task difficulty (Robinson, 2011) or task motivation (Julkunen, 2001), increasing the perceived usefulness of grammatical forms (Truscott, 2015), lowering learners' anxiety regarding communication (Krashen, 1981), or enhancing their self-efficacy through classroom instruction could be ways of implementing Affective IE.

Effects of Affective processing on output performance. The focus of the present study was on input processing. Further research could focus on the effects of affective processing on output performance as measured by the complexity, accuracy, and fluency of the learners' utterances (e.g., Housen, Kuiken, & Vedder, 2012). The MOGUL framework could predict that Affective IE is effective in improving L2 learners' output processing in the same way as Affective IE is effective in enhancing L2 input processing.

Summary of Findings

The findings of the present study on the effects of Affective IE can be summarized as follows:

(1) Affective IE, which was designed to enhance L2 learners' positive affect regarding the text topic, significantly facilitated the participants' positive evaluation of the text topic to a greater extent than Perceptual IE and Conceptual IE.

(2) Affective IE significantly promoted deep understanding of the text to a greater extent than Perceptual IE and Conceptual IE.

(3) Affective IE significantly enhanced the learning of the form and meaning of L2 vocabulary to the same extent as Perceptual IE and Conceptual IE, as examined by the results of ANOVA (the alpha level was at the .05 level of significance).

(4) However, the results for Cohen's effect size (*d*) suggested that Perceptual IE and Conceptual IE had larger effect sizes (i.e., *d* = 0.69 for Perceptual IE; *d* = 0.88 for Conceptual IE) in facilitating the semantic learning of L2 vocabulary.

(5) Affective IE significantly facilitated the learning of the OPREP relative clause and the present hypothetical conditional in the written form to the same extent as Perceptual IE and Conceptual IE.

(6) In terms of the development of their oral productive skills in the use of the two L2 grammatical forms, there were no significant differences among the Affective IE group, the Perceptual IE group, and the Conceptual IE group.

(7) Affective IE facilitates affective processing and conceptual processing regarding the self-concept (e.g., identity), as shown by the qualitative analysis of the written answers to the evaluative question.

Conclusion

This dissertation sheds new light on the significance of enhancing L2 input affectively in L2 development. Overall, the researcher argued that Affective IE is an effective instructional method of facilitating L2 development, because empirical evidence from the present study demonstrated that Affective IE was more effective in L2 learners' evaluation of a topic of L2 input material and text comprehension, and it was as effective as Perceptual IE and Conceptual IE in facilitating L2 vocabulary and grammar learning. Although several limitations are mentioned above, the present study has some theoretical and pedagogical implications.

Theoretical implications. A first theoretical contribution of this study to SLA research is the identification of the three possible effects of affect on L2 development by integrating the MOGUL framework and findings from non-SLA research fields. The spreading activation effect explains that constantly and highly active affective representations spread to other associated

representations across modules, enabling the chain of representations used for ongoing processing to be accessed or retrieved effectively. The consolidation effect means that constantly and highly active affective representations increase the activation level of other associated representations, resulting in the consolidation of the associated representations in long-term memory. The attention-guiding effect explains that input stimuli associated with affect are more likely to attract attention than otherwise. These effects are assumed to facilitate L2 input processing jointly, and, as a result, to facilitate L2 development.

A second theoretical implication is the identification of a possible connection between affect and the self-concepts of L2 learners in the context of instructed SLA. In MOGUL terms, affect and the SELF concepts, including identity, are inseparable from each other in the associative network in the brain. Moreover, the stimulus appraisal model of affect (Scherer, 1984) can be interpreted as human beings assigning a positive or negative value to input stimuli according to their self-concepts (e.g., goal/need significance and norm/self-compatibility). Therefore, it can be said that effective enhancement of affect will simultaneously involve the enhancement of conceptual processing of the self-concepts.

Pedagogical Implications. There are three implications for L2 pedagogy in classrooms. First, the present study provided empirical evidence to demonstrate that enhancing and eliciting L2 learners' positive affect regarding the text topic (i.e., Affective IE) is possible by instruction, and it is effective in facilitating a deeper level of text comprehension and L2 vocabulary and grammar learning. In addition to the traditional means of input enhancement, that is, Perceptual IE (e.g., textual or visual input enhancement) and Conceptual IE (e.g., explicit instruction, such as rule explanation and form-focused practice), Affective IE should be used to maximize the effectiveness of teaching materials (e.g., reading or listening materials, textbooks, and pedagogical tasks) used in classrooms.

Second, an inseparable relationship between affect and self, including agency, implies that once L2 learners experience positive feelings, such as pleasantness, joy, interest, comfort, or importance, in L2 learning situations or environments, they may exert their agency to try to sustain or re-create positive situations or environments. The positive feelings will enhance the self-regulation of their own learning behaviors, ultimately leading to autonomous learning.

Third, the findings of the present study emphasized the role of teachers in the L2 classroom. It is suggested that teachers' instruction can influence students' affect or evaluation of the reading material in the textbook, leading to good performance in text comprehension and the learning of linguistic items used in the text. Affective IE designed for the present study was implemented through an oral introduction, a highly feasible classroom procedure. The role of affect in the L2 classroom explored throughout this dissertation informs us that teachers' instruction can play an important part in opening students' eyes to possible connections between the contents of the L2 input material and the world around them, their own lives, and their future selves.

Appendices

Appendix A: Informed Consent Form.

Integrated English ⅡB を受講している皆さんへ
研究協力のお願い

2019 年 10 月 1 日
科目担当者　大山　廉

　私は日本人の英語の学習について研究しています。研究論文の執筆のためのデータ収集に関して、Integrated English ⅡB を受講している皆さんにご協力をお願いしたいと考えております。
　本研究は英語力を伸ばす指導に関するものです。授業の一環として語彙と文法を使用する能力を伸ばすための指導を受けていただき、その指導の効果を分析します。授業の中で行う活動やテスト、アンケートの結果が、皆さんの Integrated English ⅡB の成績に影響を与えることは一切ありません。この実験を通して得られたデータは私が厳重に管理し、研究や論文執筆の目的以外には決して使用しません。また、個人名が公開されることもありません。
　ぜひ皆さんから得たデータを研究論文の執筆のために利用することをお認めいただきますようお願いいたします。以下の用紙に記入し、授業の後に提出してください。よろしくお願いいたします。

2019 年_____月_____日

英語力を伸ばす指導の研究に関するデータを大山廉が利用することを

認めます　　・　　認めません

学生番号_____　　氏名（署名）_____

Appendix B: Proficiency Test Result Form

英語力を測ってみよう！　ID ＿＿＿＿＿＿＿　Name ＿＿＿＿＿＿＿＿＿＿

<準備するもの> イヤホン

1. 『NHK テキスト英語力測定テスト 2019』（https://eigoryoku.nhk-book.co.jp）にアクセス　　※「NHK 英語力テスト」で検索

2. 『応用編』をクリック　　　※『基礎編』ではありません！要注意！

3. 10 分くらいのテストを受ける

スコアレポート　　あなたのスコアは？　　＿＿＿＿＿＿＿＿＿ /150

Many people today are working in global settings in which people from different countries and cultural backgrounds work together. In these settings, workers can experience a number of conflicts and misunderstandings in daily business situations because they have more opportunities to communicate with international business partners through email or telephone. While these are useful and effective tools through which we can communicate across countries, they do not allow for contextual cues, which can increase the likelihood of misunderstandings of business partners' intended messages. People may assume that such misunderstandings are derived from individual differences. However, Meyer (2014) claims that cultural differences are also primary factors that influence our international communication.

Meyer (2014) identified eight scales that show how our communication styles differ from culture to culture. These include communicating, evaluating, persuading, leading, deciding, trusting, disagreeing, and scheduling. She argues that these scales can help us understand how culture influences our international communication. For example, the communicating scale is a tool for understanding how people from diverse cultures convey their messages. Within a two-sided spectrum, cultures vary from high-context communication on one side to low-context communication on the other. Among others, while Japan, China, and Korea belong to the high-context group, in which people express their messages implicitly and take meaning from unspoken ideas, the United States, Australia, and Canada belong to the low-context group, in which messages are precise, simple, and explicit. In Japan, the word "KY" was elected as the most popular new word several years ago. KY represents *kuuki yomenai*, which literally

means a person who cannot read the air. This term is relevant to Japan's high-context communication style.

On the other hand, if you were an American, you might ask "What do you mean by 'read the air'?" In low-context cultures, communication must be simple and clear to deliver a message effectively. Thus, if you were an American in a meeting in Japan, you might not be able to understand the atmosphere to read implicit messages of disagreement and/or discomfort. If you did not succeed in it in the meeting, you could be labeled a KY person.

Meyer (2014) tells us that we should pay attention not only to personality, but to cultures to which our business partners belong. The wisdom that Meyer (2014) offers could prevent us from having unnecessary misunderstandings when we communicate with international business partners, which will lead to effective global business through successful communication.

(Based on *The culture map: Decoding how people think, lead, and get things done across cultures*, Meyer, E., 2014)

Affective IE

Members of the Japanese
national rugby team 1

[Picture omitted]

https://www.key-eye.net/blog/special/rugbyforeign/

Members of the Japanese national rugby team 2

[Picture omitted]

【インタビュー】外国人に日本の好きな/嫌いな所を聞いてみた

[Video omitted]

Today's Topic

Cross-cultural communication

Why cross-cultural communication?

One of the primary reasons is

the issue of foreign workers.

人手不足の中で「外国人技能実習制度」は今.../広島テレビ（2018年）

[Video omitted]

外国人労働者〜原状と懸念
（2018年11月10日）

[Video omitted]

図1　在留資格別外国人労働者数の推移

（単位：千人）
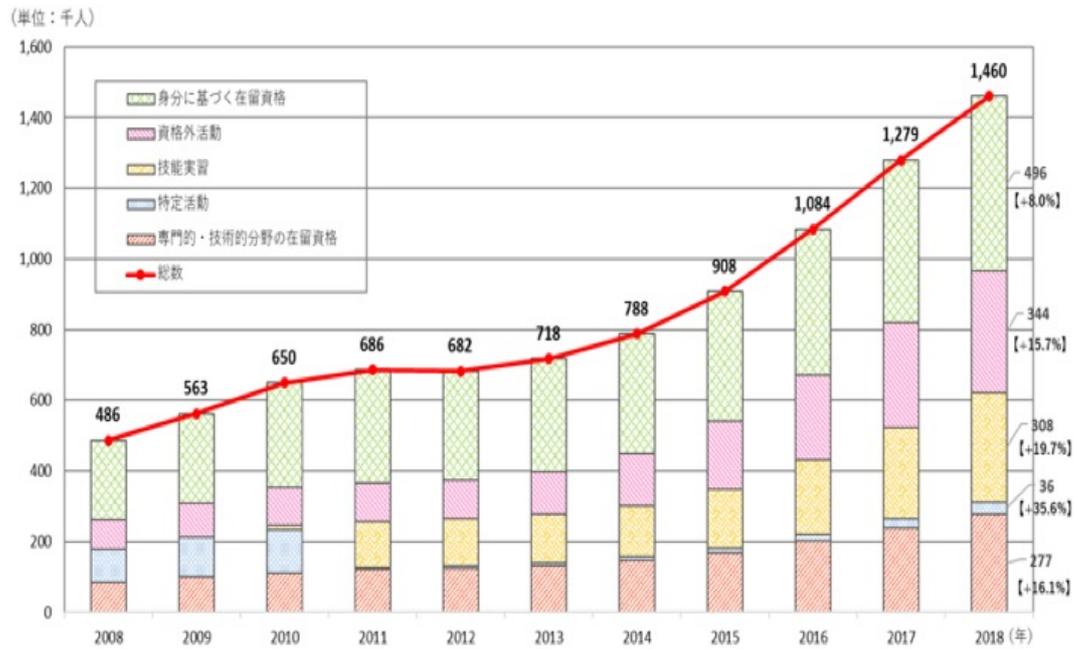
厚生労働省 (2018)「外国人雇用状況」の届出状況まとめ（本文）
（https://www.mhlw.go.jp/content/11655000/000472892.pdf）

Examples
of misunderstandings
in cross-cultural
communication

1. 外国人の先生の授業にて

＜日本人の行動＞

個人の意見や質問は積極的に言わない。静かに先生の話を聞くのが大切。でしゃばるべきではない。

＜外国人先生の反応＞

授業中に自分の意見を言わないということは、授業に興味がない・何も考えていないんだな。

2. お土産を渡す時に

＜日本人＞

「つまらないものですが。」（贈り物を差し出しながら）

＜外国人の反応＞

「・・・（つまらないものをプレゼントするなんて失礼だ。）」

3. 褒め言葉に対して一言

＜外国人＞

"Your English is very good."（英語上手
ですね。）

＜日本人＞

"No. No."（そんなことないです。）

＜外国人の反応＞
**"・・・"（せっかく褒めたのに
否定された。メンツ丸つぶれ。）**

What is the possible cause of
these misunderstandings?

Personality (Individual
differences)

AND

**Culture / Way of thinking
(Cultural differences)**

Why cross-cultural communication now?

- 外国人労働者の急増
- 将来あなたの同僚は外国人かもしれない
- 文化の違いによる誤解など難しいこともあるかもしれない

Why cross-cultural communication now? （続き）

- たとえ日本人同士、男性と女性だって、異なる価値観、コミュニケーションスタイル
- 外国人に限らず、毎日cross-cultural communicationを経験している

Perceptual IE

Learning Strategy
（学習のコツ・自分に合ったやり方）

What kind of learning strategies do you usually use when you want to learn English words or grammatical forms in a text?

Your learning strategies

- 文章で暗記
- speaking / reading aloud
- 問題を解く
- ノートに教科書の文を書く
- 辞書を引いて、他の単語と一緒にフレーズで覚える
- 繰り返す
- たくさん書く

Today we use…

- Underline or highlight the word
- See the word many times
- Read aloud
- Write the word many times
- Use the word (say or write a sentence with the word)

Underlining and highlighting

We are going to …
1. Underline <u>important words</u> in the text.
2. Highlight <mark>important phrases</mark> in the text.

The 1st paragraph   **4 words**

Many people today are working in global settings <mark>in which people from different countries and cultural backgrounds work together</mark>. In these settings, workers can experience a number of <u>conflicts</u> and misunderstandings in daily business situations because they have more opportunities to communicate with international business partners through email or telephone. While these are useful and effective tools <mark>through which we can communicate across countries</mark>, they do not allow for contextual cues, which can increase the <u>likelihood</u> of misunderstandings of business partners' intended messages. People may assume that such misunderstandings are derived from <u>individual</u> differences. However, Meyer (2014) claims that cultural differences are also <u>primary</u> factors that influence our international communication.

The 2nd paragraph　　　**3 words**

Meyer (2014) identified eight scales that show how our communication styles differ from culture to culture. These include communicating, evaluating, persuading, leading, deciding, trusting, disagreeing, and scheduling. She argues that these scales can help us understand how culture influences our international communication. For example, the communicating scale is a tool for understanding how people from diverse cultures convey their messages. Within a two-sided spectrum, cultures vary from high-context communication on one side to low-context communication on the other. Among others, while Japan, China, and Korea belong to the high-context group, in which people express their messages implicitly and take meaning from unspoken ideas, the United States, Australia, and Canada belong to the low-context group, in which messages are precise, simple, and explicit. In Japan, the word "KY" was elected as the most popular new word several years ago. KY represents *kuuki yomenai*, which literally means a person who cannot read the air. This term is relevant to Japan's high-context communication style.

The 3rd paragraph　　　**2 words**

On the other hand, if you were an American, you might ask "What do you mean by 'read the air'?" In low-context cultures, communication must be simple and clear to deliver a message effectively. Thus, if you were an American in a meeting in Japan, you might not be able to understand the atmosphere to read implicit messages of disagreement and/or discomfort. If you did not succeed in it in the meeting, you could be labeled a KY person.

The 4th paragraph

Meyer (2014) tells us that we should pay attention not only to personality, but to cultures to which our business partners belong. The wisdom that Meyer (2014) offers could prevent us from having unnecessary misunderstandings when we communicate with international business partners, which will lead to effective global business through successful communication.

Conceptual IE

Important words
and grammar in the text

Practice 1: Use the words in the box to complete the sentences.

1. There is a _____ between the Japanese and Korean governments.

2. _____ is a feeling of uncomfortable.

3. My interests are very _____.

diverse, discomfort, conflict

Practice 1: Use the words in the box to complete the sentences.

1. There is a __**conflict**__ between the Japanese and Korean governments.

2. __**Discomfort**__ is a feeling of uncomfortable.

3. My interests are very __**diverse**__.

diverse, discomfort, conflict

Practice 2: Use the words in the
box to complete the sentences.

4. PowerPoint slides help you present
   your idea _____.
5. The word "_____" means
   one person.
6. There is a strong _____
   that the rugby team wins the game.

likelihood, effectively, individual

Practice 2: Use the words in the
box to complete the sentences.

4. PowerPoint slides help you present
   your idea __**effectively**__.
5. The word "__**individual**__" means
   one person.
6. There is a strong __**likelihood**__
   that the rugby team wins the game.

likelihood, effectively, individual

Practice 3: Use the words in the box to complete the sentences.

7. It is difficult to _____ translate Japanese into English.

8. The _____ cause of lung cancer is smoking.

9. The weather _____ from place to place.

vary, literally, primary

Practice 3: Use the words in the box to complete the sentences.

7. It is difficult to **literally** translate Japanese into English.

8. The **primary** cause of lung cancer is smoking.

9. The weather **varies** from place to place.

vary, literally, primary

Practice 4:
Find an error and correct it.

(1) ここが僕が財布をなくした駅
だよ。

This is the station which I lost my
wallet.

(2) この人が一緒に働いているお
医者さんだよ。
This is the doctor who I work.

Practice 4:
Find an error and correct it.

(1) ここが僕が財布をなくした駅
だよ。 **at**
This is the station which I lost my
wallet. **at**

(2) この人が一緒に働いているお
医者さんだよ。 **with** **with**
This is the doctor who I work.

(3) 株式会社ABCは父が働いていた会社です。

ABC Corporation is the company which my father used to work.

---

(3) 株式会社ABCは父が働いていた会社です。

ABC Corporation is the company which my father used to work.

for   for

Practice 5: Find errors and correct them.

(1) もし今、私があなたの立場なら、彼に謝るのに。

If I am you, I will apologize to him.

(2) もし今、ドイツに住んでいたら、毎日ソーセージを食べるのに。

If I had lived in Germany,

I would have eaten sausages everyday.

(3) もし今、晴れていたら、ピクニックに行けるのに。

If it is sunny, we can go for a picnic.

---

(3) もし今、晴れていたら、ピクニックに行けるのに。

If it is sunny, we can go for a picnic.

were   could

Appendix G: Reading Activities

Reading Activity   ID _____ Name _____

A. Vocabulary List
本文を読むときは辞書ではなく、この単語リストを使ってください。

conflict	対立、いざこざ
misunderstanding	誤解
contextual cue	文脈的な手がかり
likelihood	可能性
assume	想定する、思う
be derived from ~	～に由来する
individual	個人の
claim	主張する
primary	主要な、重要な
identify	つきとめる、特定する
scale	尺度
differ	異なる
argue	主張する
diverse	多様な
convey	伝える
spectrum	範囲
vary	変わる
implicitly	暗示的に
explicit	明示的な
elect	選ぶ
represent	表す
literally	文字通りに
relevant	関連がある
effectively	効果的に
atmosphere	雰囲気
discomfort	不快感
label	レッテルを貼る
inform	知らせる
personality	人格、性格
wisdom	知恵
prevent	防ぐ

B. Reading Activity 1
2 分間で読めるところまで、意味の句切れにスラッシュ（ / ）を入れながら
黙読してください。

C. Reading Activity 2
英文 1～8 の内、本文の内容に合う文には T を、合わない文には F を、わか
らない場合は×を付けてください。

＜First Paragraph＞
1. International communication through email or telephone may not lead us
   to misunderstandings. [   ]
2. Meyer (2014) thinks that our cultures influence our communication styles.
   [   ]

＜Second Paragraph＞
3. People in low-context cultures convey their messages in a clear and
   explicit way. [   ]
4. The term KY ("*kuuki yomenai"*) represents the implicit way of
   communication in Japan. [   ]

＜Third Paragraph＞
5. It is easy for Americans to understand the meaning of "read the air."
   [   ]
6. In a meeting in Japan, you are expected to understand the messages
   that are not voiced*.   *声にする [   ]

＜Fourth Paragraph＞
7. Meyer (2014) thinks that personality is unimportant in international
   communication. [   ]
8. Knowing cultural diversity* in the world will help you to avoid needless
   misunderstandings with foreign people.   *多様性
   [   ]

D. Reading Activity 3

　筆者が一番言いたいこと（主張・結論）は何だと思いますか。出来るだけ具体的に日本語で書いてください。
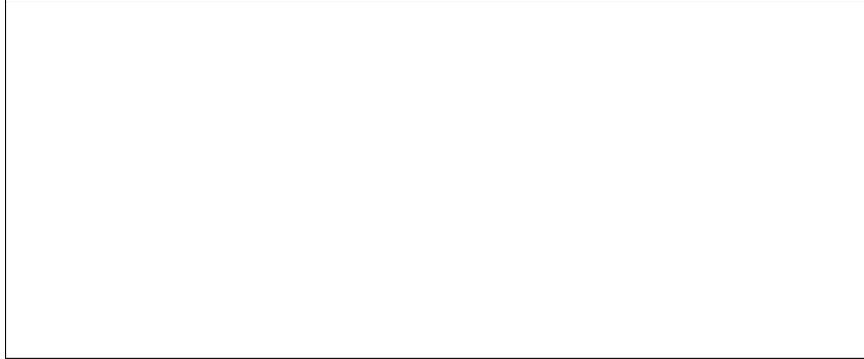
E. Reading Activity 4

　この本文の内容は、あなたの生活や将来の自分にどのような関連があると思いますか。出来るだけ具体的に日本語で書いてください。
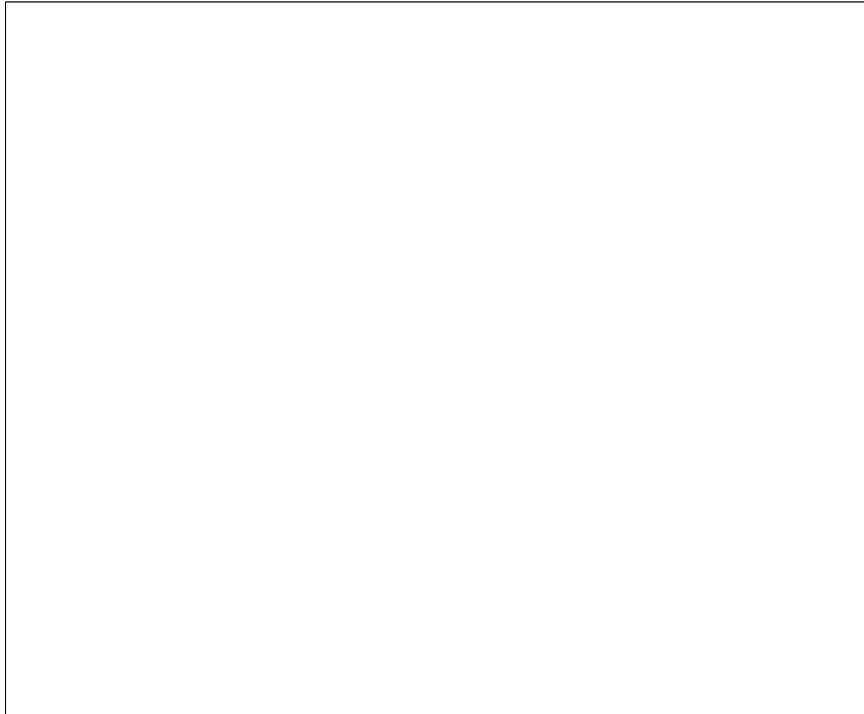
Appendix H: Questionnaire for Affective IE

アンケート

学生番号＿＿＿＿＿＿＿＿　名前＿＿＿＿＿＿＿＿＿＿＿＿

次の質問に答えてください。

1. 異文化間コミュニケーションについて先生の話を聞いて、あなたが知ったこと、感じたこと、考えたことをできるだけ具体的に書いてください。

2. 異文化間コミュニケーションについて先生の話を聞いて、今まで知らなかったことを学ぶことができましたか？

　　　　　　　4　　　　　　3　　　　　　　2　　　　　　　1
　　　　　　できた　　少しできた　あまりできなかった　全然できなかった

3. 異文化間コミュニケーションについて、知ることができてよかったと思いますか？

　　　　　　　4　　　　　　3　　　　　　　2　　　　　　　1
　　　　　　思う　　少し思う　　あまり思わない　　全然思わない

4. あなたがこれから社会人として生きていく上で、異文化間コミュニケーションについて知ることは役に立つと思いますか？

　　　　　　　4　　　　　　3　　　　　　　2　　　　　　　1
　　　　　　思う　　少し思う　　あまり思わない　　全然思わない

1

5. これから異文化間コミュニケーションについて英語で書かれた文章を読みます。その内容を理解することができると思いますか？

	4	3	2	1
	だいたいできる	少しできる	あまりできない	全くできない

6. 異文化間コミュニケーションについて知ると、もっと素敵な人になれると思いますか？

	4	3	2	1
	思う	少し思う	あまり思わない	全然思わない

7. 異文化間コミュニケーションに関する事柄は、社会人として知っておくべき事柄の一つだと思いますか？

	4	3	2	1
	思う	少し思う	あまり思わない	全然思わない

2

Appendix I: Questionnaire for the Contrast Groups

アンケート

学生番号_____　名前_____

次の質問に答えてください。

1. 異文化間コミュニケーションという言葉を聞いてイメージすること、異文化間コミュニケーションについてあなたが知っていることを書いてください。

2. 異文化間コミュニケーションについて、すでに知っていることがありますか？

       4   3   2   1
  全然ない   あまりない   少しある   たくさんある

3. 異文化間コミュニケーションについて、もっと知れたら嬉しいと思いますか？

       4   3   2   1
   思う   少し思う   あまり思わない   全然思わない

4. あなたがこれから社会人として生きていく上で、異文化間コミュニケーションについて知ることは役に立つと思いますか？

       4   3   2   1
   思う   少し思う   あまり思わない   全然思わない

（裏につづく）

1

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5. これから異文化間コミュニケーションについて英語で書かれた文章を読みます。その内容を理解することができると思いますか?

4	3	2	1
だいたいできる	少しできる	あまりできない	全くできない

6. 異文化間コミュニケーションについて知ると、もっと素敵な人になれると思いますか?

4	3	2	1
思う	少し思う	あまり思わない	全然思わない

7. 異文化間コミュニケーションに関する事柄は、社会人として知っておくべき事柄の一つだと思いますか?

4	3	2	1
思う	少し思う	あまり思わない	全然思わない

2

Appendix J: List of Content Words

Word	Frequency	Word	Frequency
相手	42	考え（考え方）	10
当たり前	3	環境	3
生きる	3	関係	7
意識	6	慣習（風習）	2
意味	3	寛容	1
移民	1	関連	7
色々な	8	機会	23
異文化	15	企業	2
異文化間コミュニケーション	10	共生	1
異文化理解	4	勤務	4
受け入れる	8	空気を読む	1
多い（多く）	6	国	12
折り合いをつける	1	暮らし	1
外国（他国）	15	グループ	1
外国人	58	グローバル化	10
外国人労働者	10	経験	1
関わり（関わる）	19	KY	3
海外	12	謙遜	1
会社	2	恋人	1
学習	1	行動	4
家族	1	交流	8
価値観	4	誤解	12

Word	Frequency	Word	Frequency
国際化	4	職場	4
国籍	2	性格	2
個人	1	生活	10
個性	1	世界	3
異なる	6	接する	16
ことば	5	尊敬	1
固定観念（ステレオタイプ）	2	尊重	2
コミュニケーション	31	大事	3
差別	1	大切	15
様々な	5	態度	3
仕事	26	対立	1
自国	1	対話	1
自己中心的	1	高まる	1
自分	40	他者（他人）	2
知る	23	多文化	1
社会	13	多様性	2
社会人	3	多様な	3
就職	6	違い	26
重要	9	知識	3
常識	3	出会う（出会い）	6
状況	4	転勤	1
将来	37	同僚	5

Word	Frequency	Word	Frequency
友達	2	世の中	1
共に生きてく	1	理解	36
捉え方	1	留学	4
仲良く	1	留学生	2
日本（日本人、日本語）	45	ローコンテクスト	2
認識	3	私	9
背景	4		
ハイコンテクスト	2	合計	923
働く	12		
ビジネス	2		
必要	15		
広げる（広がる）	3		
増える	22		
文化	62		
文脈	1		
平和	1		
変化	1		
偏見	1		
学ぶ	3		
見方	1		
身近	3		
メッセージ	1		

Appendix K: Written Vocabulary Test

語彙テスト

ID ＿＿＿＿＿＿＿＿＿＿＿＿＿ Name ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

1. competition
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
       選んでください。
       　　　　a. 競争　　　b. 同盟　　　c. 協力　　　d. 敵意　　　e. わからない

2. diverse
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
       選んでください。
       　　　　a. 多様な　　　b. 興味深い　　　c. 特徴的な　　　d.平凡な　　　e. わからない

3. literally
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
       選んでください。
       a. 一方的に　　　b. 明らかに　　　c. 文脈的に　　　d. 文字通りに　　　e. わからない

4. claim
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
       選んでください。
       a. 報告する　　　b. 主張する　　　c. 文句を言う　　　d. 予測する　　　e. わからない

5. spectrum
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
       選んでください。
       　　　　a. 色彩　　　b. 周波数　　　c. 範囲　　　d. 眺め　　　e. わからない

6. effectively
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
       選んでください。
       　　　　a. 効果的に　　　b. 速やかに　　　c. 極端に　　　d. 効率的に　　　e. わからない

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7. maintain
   (1) この単語を見たことがありますか？　　はい ・ いいえ
   (2) この単語の意味を選択肢 a 〜 d から１つ選んでください。わからない場合は e を
   選んでください。
   　　　　a. 終わりにする　　b. 高める　　　c. 持続させる　　d. 壊す　　e. わからない

8. conventional
   (1) この単語を見たことがありますか？　　はい ・ いいえ
   (2) この単語の意味を選択肢 a 〜 d から１つ選んでください。わからない場合は e を
   選んでください。
   　　　　a. いつもと違う　　b. 慣例の　　　c. 会話の　　　d. 古典的な　　e. わからない

9. represent
   (1) この単語を見たことがありますか？　　はい ・ いいえ
   (2) この単語の意味を選択肢 a 〜 d から１つ選んでください。わからない場合は e を
   選んでください。
   　　　　a. 表す　　　b. 祝う　　　　c. 発表する　　　d. もたらす　　　e. わからない

10. discomfort
   (1) この単語を見たことがありますか？　　はい ・ いいえ
   (2) この単語の意味を選択肢 a 〜 d から１つ選んでください。わからない場合は e を
   選んでください。
   　　　　a. 爽快感　　b. 嫌悪感　　　c. 不信感　　　d. 不快感　　　e. わからない

11. primary
   (1) この単語を見たことがありますか？　　はい ・ いいえ
   (2) この単語の意味を選択肢 a 〜 d から１つ選んでください。わからない場合は e を
   選んでください。
   　　　　a. 幼い　　　b. 唯一の　　　c. 主要な　　　d. 第二の　　　e. わからない

12. organization
   (1) この単語を見たことがありますか？　　はい ・ いいえ
   (2) この単語の意味を選択肢 a 〜 d から１つ選んでください。わからない場合は e を
   選んでください。
   　　　　a. 商店　　　b. 組織　　　c. 経営　　　d. 基金　　　e. わからない

13. implicitly
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
   　　選んでください。
   　　　　　a. 明確に　　　b. 着実に　　　c. 暗示的に　　　d. 思いつきで　　　e. わからない

14. conflict
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
   　　選んでください。
   　　　　　　a. 対立　　　b. 障害　　　c. 壁　　　d. 落とし穴　　　e. わからない

15. suggest
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
   　　選んでください。
   　　　　　a. 宣言する　　　b. 決定する　　　c. 否定する　　　d. 示唆する　　　e. わからない

16. convey
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
   　　選んでください。
   　　　　　a. 解釈する　　　b. 伝承する　　　c. 誤解する　　　d. 伝える　　　e. わからない

17. deliberately
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
   　　選んでください。
   　　　　　a. 偶然に　　　b. 故意に　　　c. 無意識的に　　　d. 計画的に　　　e. わからない

18. individual
   (1) この単語を見たことがありますか？　　はい　・　いいえ
   (2) この単語の意味を選択肢 a ～ d から１つ選んでください。わからない場合は e を
   　　選んでください。
   　　　　　a. 重要な　　　b. 集団の　　　c. 現代的な　　　d. 個人的な　　　e. わからない

19. likelihood
    (1) この単語を見たことがありますか？　　はい　・　いいえ
    (2) この単語の意味を選択肢 a 〜 d から１つ選んでください。わからない場合は e を
       選んでください。
               a. 好意　　　b. 可能性　　　c. 危険　　　d. 敵意　　　e. わからない

20. vary
    (1) この単語を見たことがありますか？　　はい　・　いいえ
    (2) この単語の意味を選択肢 a 〜 d から１つ選んでください。わからない場合は e を
       選んでください。
               a. 対応する　　b. 似ている　　　c. 変わる　　　d. 高まる　　　e. わからない

Appendix L: Written Grammar Test for the OPREP Relative Clause

文法テスト 1

ID _____ Name _____

1~20 にある 2 つの英文を関係代名詞を使って 1 つの英文にして、下線部に続けて書いてください。

1. I found the building. My father worked in the building.

    I found the building _____.

2. I remember the experience. I learned a lot through the experience.

    I remember the experience _____.

3. I thanked my colleagues. The colleagues helped me a lot.

    I thanked my colleagues _____.

4. I joined the club. My mother belonged to the club.

    I joined the club _____.

5. I really thanked my colleagues. I received great support from my colleagues.

    I really thanked my colleagues _____.

6. I found the building. My mother designed the building.

    I found the building _____.

7. I visited the town. I was born in the town.

    I visited the town _____.

8. I read the email. My sister sent me an important message through the email.

    I read the email _____.

9. I found the man. The man solved the math problem.

    I found the man _____.

10. I visited the country. I wanted to go to the country.

    I visited the country _____.

11. I visited the library. I borrowed some books from the library.

    I visited the library _____.

12. I read the email. My brother wrote the email.

    I read the email _____.

Appendix M: Written Grammar Test for the Present Hypothetical Conditional

文法テスト 2

ID _____ Name _____

次のような場面で、あなたなら英語で何と言いますか？(　　)内の単語を使って、空欄を埋めてください。ただし、必要に応じて形を変えてください。２語以上になるところもあります。全部で 20 問あります。

1. あなたのお兄さんは獣医じゃありません。<u>もし今、兄さんが獣医なら、愛犬の命を救えるのに</u>、という残念な気持ちを英語で書いてください。

   If my brother _____ (be) a vet, he _____ (save) our dog's life.

2. 財布にあまりお金が入っていません。<u>もし今、もっとお金があれば、その本を会うことができるのに</u>、というがっかりした気持ちを英語で書いてください。

   If I _____ (have) much money, I _____ (buy) the book.

3. 天気予報によると明日は晴れるかもしれないし曇りになるかもしれない。<u>もし明日晴れれば、公園へ散歩に行こう</u>、という気持ちを英語で書いてください。

   If it _____ (be) sunny, I _____ (take) a walk to the park.

4. 今日は試験の日です。あるクラスメイトに消しゴムを貸してと頼まれましたが、一つしか持っていないので貸せません。<u>もし今、消しゴムをもう一つ持っていれば、貸すことができるのに</u>、という残念な気持ちを英語で書いてください。

   If I _____ (have) one more eraser, I _____ (lend) one to the classmate.

5. 今日は英単語の小テスト(English vocabulary quiz)の日です。忙しくて勉強できません。<u>もし今、時間があれば、小テストの勉強をするのに</u>、という気持ちを英語で書いてください。

   If I _____ (have) time, I _____ (study) for the English vocabulary quiz.

6. 昨日の夜、静香さんに相談したいことがあったので、電話したかったが電話番号を知らなかった。<u>もし昨日、静香さんの電話番号を知っていたら、電話することができたのに</u>、という残念な気持ちを英語で書いてください。

   If I _____ (know) Shizuka's phone number, I _____ (call) her.

7. あなたはついさっき夕ご飯を食べたばかりなのでお腹がいっぱいです。もし今、お腹が空いていれば、ここにいる友達と一緒にご飯に行くのに、という残念な気持ちを英語で書いてください。

   If I _____ (be) hungry, I _____ (go) for a dinner with you.

8. あたなは学生なのでお金持ちではありません。もし今、お金持ちならば、ピカソの絵画を集めることができるのに、という願望を英語で書いてください。

   If I _____ (be) rich, I _____ (collect) Picasso's paintings.

9. あなたは今友達と一緒に勉強をしていて、宿題を手伝ってもらうようにお願いするつもりです。もし今、宿題を手伝ってくれるなら、コーラをおごるよ、という気持ちを英語で書いてください。

   If you _____ (help) me with my homework, I _____ (buy) you a cola.

10. あなたには欲しい自転車がありますが、少し予算オーバーです。もし今、その自転車がもっと安ければ、買うことができるのに、という残念な気持ちを英語で書いてください。

    If the bicycle _____ (be) cheaper, I _____ (buy) it.

11. 今あなたは就活中で、自分のパソコンを持っていません。もし今、パソコンを持っていれば、会社の情報をもっと得ることができるのに、という気持ちを英語で書いてください。

    If I _____ (have) a computer, I _____(get)
    much information about the company.

12. 昨日の野球の試合であなたは９回裏２アウトで打席に立ちましたが、ヒットを打てず負けてしまいました。もしあの時、ホームランを打っていたら、チームが勝利できたのに、という悔しい気持ちを英語で書いてください。

    If I _____ (hit) a home run, the team _____ (win) the game.

Oral Grammar Test

はじめに

録音の準備をします。

自分のスマホ、またはパソコンの
録音アプリを起動してください。

今から本文の要約を1文ずつ英語で音読します。

英文には★マークが付いている、空欄のある英文があります。

日本語の意味をヒントにして、適切な語句を入れながら音読してみましょう。

初めに日本語と英語のスライドが出るので、20秒で音読をする準備をしてください。

その後、また日本語と英語のスライドが出るので、20秒以内に英語で音読してください。

（練習）

20秒で音読の準備をしてください。

★0
私は大学生です。

I _____ a university student.

（練習）

20秒以内に音読してください。

★0
私は大学生です。

I _____ a university student.

読み始めるタイミングは、周りに合わせず、自分のタイミングでいいです。

では本番です。
全部で**8文**あります。

録音ボタンを押して
ください。

始めます

20秒で音読の準備をしてください。

★1

今日では多くの人々が、異なる国から来た人や異なる文化的背景を持つ人が協働している国際的な状況で働いている。

Many people today are working in global settings _____ which people from different countries and cultural backgrounds work together.

20秒で音読の準備をしてください。

2

このような状況下で人々は、ビジネスの中で多くの対立や誤解を経験しているだろう。

In these settings, workers can experience a number of conflicts and misunderstandings in daily business situations.

20秒以内に音読してください。

2

このような状況下で人々は、ビジネスの中で多くの対立や誤解を経験しているだろう。

In these settings, workers can experience a number of conflicts and misunderstandings in daily business situations.

20秒で音読の準備をしてください。

3

本の著者であるエリン・メイヤーは、個人の性格の違いだけではなく、文化的な違いが私たちの国際的なコミュニケーションに影響を与えると主張している。

Erin Meyer, a book writer, claims that not only personal differences, but also cultural differences impact our international communication.

20秒以内に音読してください。

3

本の著者であるエリン・メイヤーは、個人の性格の違いだけではなく、文化的な違いが私たちの国際的なコミュニケーションに影響を与えると主張している。

Erin Meyer, a book writer, claims that not only personal differences, but also cultural differences impact our international communication.

20秒で音読の準備をしてください。

★4　メイヤーによれば、日本や中国、韓国などの国々は、人々が言いたいことを暗示的に表現したり、言い表されていない意味を読み取ったりする高コンテクストグループに属している。

According to Meyer, countries such as Japan, China, and Korea belong to the high-context group, _____ which people express their messages implicitly and take meaning from unspoken ideas.

20秒以内に音読してください。

★4　メイヤーによれば、日本や中国、韓国などの国々は、人々が言いたいことを暗示的に表現したり、言い表されていない意味を読み取ったりする高コンテクストグループに属している。

According to Meyer, countries such as Japan, China, and Korea belong to the high-context group, _____ which people express their messages implicitly and take meaning from unspoken ideas.

20秒で音読の準備をしてください。

★5 一方、アメリカやオーストラリア、カナダは、言いたいことは正確に、シンプルに、明示的に表される低コンテクストグループに属している。

On the other hand, the United States of America, Australia, and Canada belong to the low-context group, _____ which messages are precise, simple, and explicit.

20秒以内に音読してください。

★5 一方、アメリカやオーストラリア、カナダは、言いたいことは正確に、シンプルに、明示的に表される低コンテクストグループに属している。

On the other hand, the United States of America, Australia, and Canada belong to the low-context group, _____ which messages are precise, simple, and explicit.

20秒で音読の準備をしてください。

★6

よって、もし今あなたがアメリカ人だとすれば、暗示的なメッセージを読み取るためにその場の雰囲気を理解することはできないだろう。

Thus, if you _____ an American in a meeting in Japan, you _____ be able to understand the atmosphere to read implicit messages.

20秒で音読の準備をしてください。

★7

もし今あなたがそれ（空気を読むこと）に成功しなければ、あなたはＫＹになってしまう可能性がある。

If you _____ not succeed in it in the meeting, you _____ be a KY person.

20秒以内に音読してください。

★7

もし今あなたがそれ（空気を読むこと）に成功しなければ、あなたはＫＹになってしまう可能性がある。

If you _____ not succeed in it in the meeting, you _____ be a KY person.

20秒で音読の準備をしてください。

★8 国際的なコミュニケーションにおいて不必要な誤解を避けるために、私たちは個人の性格だけではなく、ビジネスパートナーが属している文化にも注意を向けるべきだ。

To avoid unnecessary misunderstandings in international communication, we should pay attention not only to personality, but to cultures _____ which our business partners belong.

20秒以内に音読してください。

★8 国際的なコミュニケーションにおいて不必要な誤解を避けるために、私たちは個人の性格だけではなく、ビジネスパートナーが属している文化にも注意を向けるべきだ。

To avoid unnecessary misunderstandings in international communication, we should pay attention not only to personality, but to cultures _____ which our business partners belong.

これで音読テストは終わりです。**録音を停止**してください。

＜提出方法＞
１．ファイル名を自分の名前に変更
　　（例）「大山廉」
２．OneDriveの「英語音読課題」に提出

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